

BOYLSTON WT STILES RD

STILES ROAD BOYLSTON, MA 01505 WORCESTER COUNTY

PROJECT TYPE: BOYLSTON WATER DISTRICT TELECOMMUNICATIONS INSTALLATION ON PROPOSED 150'± SELF-SUPPORTING TOWER

SITE INFORMATION:

LAND OWNER:	BOYLSTON WATER DISTRICT 221 MAIN STREET BOYLSTON, MA 01505
APPLICANT:	GREEN MOUNTAIN COMMUNICATIONS 702 RIVERWOOD DRIVE PEMBROKE, NH 03275
SITE ADDRESS:	STILES ROAD BOYLSTON, MA 01505
COUNTY:	WORCESTER COUNTY, MA
SITE CONTROL POINT:	CENTER OF PROPOSED SELF-SUPPORTING TOWER N 42°-20'-35.88" (42.343300") (NAD '83) W 71°-42'-22.86" (71.706350") (NAD '83)
ZONING CLASSIFICATION:	RR (RURAL RESIDENTIAL)
ZONING JURISDICTION:	TOWN OF BOYLSTON, MA
TAX ID PARCEL NUMBER:	MAP 32 LOT 6
ARCHITECT / ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
POWER COMPANY:	BOYLSTON LIGHT DEPARTMENT P.O. BOX 753 BOYLSTON, MA 01505 (508)869-2626
TELEPHONE COMPANY:	VERIZON 185 FRANKLIN STREET BOSTON, MA 02107 (800)941-9900

GENERAL NOTES

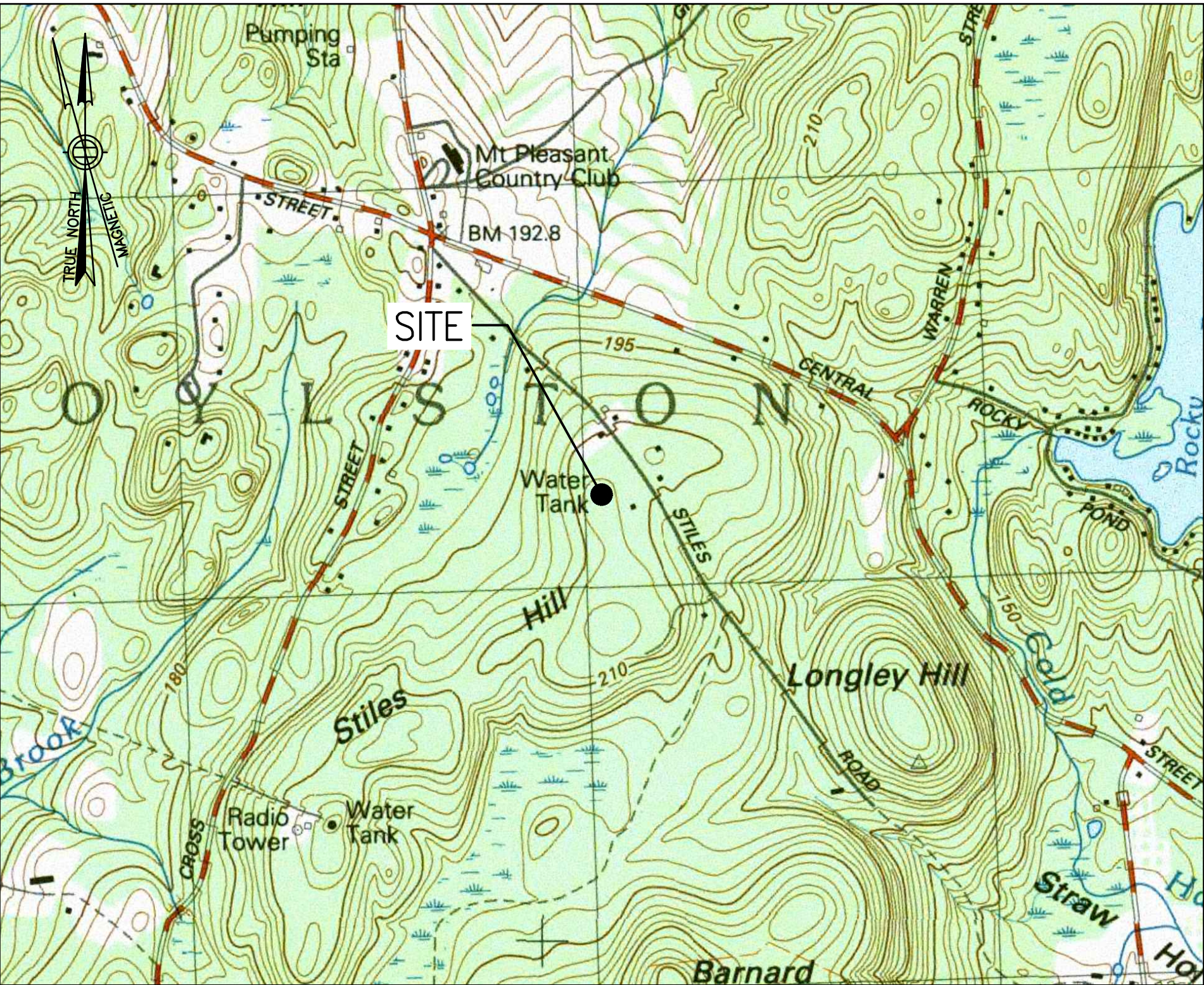
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
 - BUILDING CODE: MASSACHUSETTS STATE BUILDING CODE 780-CMR 9TH EDITION
 - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
 - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

AT LEAST 72 HOURS PRIOR TO
DIGGING, THE CONTRACTOR IS
REQUIRED TO CALL DIG SAFE AT 811



VICINITY MAP

SCALE: 1"=1000'



DRIVING DIRECTIONS

FROM MARLBOROUGH, MA, TAKE I-290 WEST TOWARD WORCESTER. TAKE EXIT 24 FOR CHURCH STREET TOWARD BOYLSTON/NORTHBORO. TURN RIGHT ONTO CHURCH STREET. CONTINUE ONTO CENTRAL STREET. TURN LEFT ONTO CROSS STREET. CONTINUE ON STILES ROAD. THE SITE WILL BE ON THE RIGHT HAND SIDE.

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DO NOT SCALE DRAWINGS

ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS AT THE PROPOSED PROJECT SITE SHALL BE VERIFIED IN THE FIELD DURING THE CONSTRUCTION PHASE. THE PROJECT OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES IMMEDIATELY PRIOR TO PROCEEDING WITH THE PROPOSED WORK AFFECTED BY SUCH DISCREPANCIES. IN THE EVENT OF LACK OF SUCH NOTIFICATION, SUCH DISCREPANCIES SHALL BECOME THE RESPONSIBILITY OF THE PREVAILING CONTRACTOR RESPONSIBLE FOR CONSTRUCTION.

PROJECT DESCRIPTION

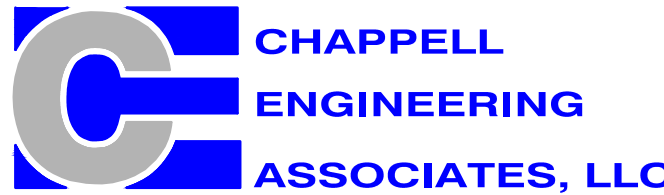
- THIS IS AN UNMANNED AND RESTRICTED ACCESS INSTALLATION AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC WIRELESS TELECOMMUNICATIONS SERVICE.
- THIS FACILITY WILL CONSUME NO UNRECOVERABLE ENERGY.
- NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.
- NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.
- NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.

CLIENT:



702 RIVERWOOD DRIVE
PEMBROKE, NH 03275

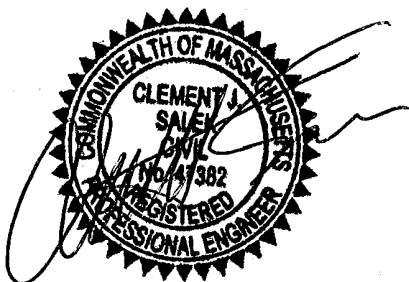
ARCHITECT/ENGINEER:



Civil · Structural · Land Surveying

R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST
SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

SEAL:



ENGINEER/LAND SURVEYOR

DATE

DRAWING SCALE NOTE:

THESE DRAWINGS HAVE BEEN PREPARED IN ARCH D (24"x36") FORMAT. AS SUCH, THE WRITTEN SCALES SHOWN ON ANY REPRODUCTIONS OF A CONTRACTORY SIZE SHALL BE RENDERED INVALID. ALL BAR SCALES MAY BE USED REGARDLESS OF REPRODUCTION SIZE, WHERE IN CONFLICT, BAR SCALES SHALL SUPERSEDE WRITTEN SCALES.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	11/21/22
1	ISSUED FOR CONSTRUCTION (FINAL)	11/22/22

PROJECT NAME:

BOYLSTON WT STILES ROAD

STILES ROAD
BOYLSTON, MA 01505

DRAWING TITLE:

TITLE SHEET

DRAWING NO:

T01

SCALE:

AS SHOWN

CEA PROJECT NO.:

754.150

DESIGNED BY: GRS/NWC

DRAWN BY: NWC

CHECKED BY: GRS

ORIGINAL ISSUE DATE:

11/21/22

SHEET NO.:

1 OF 7

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – TBD
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – TOWN OF BOYLSTON
OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC. 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACK FILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS & POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.
15. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
16. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
17. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE, WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER
OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS½ IN.
5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS; NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ¾" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL
7. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.
5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

1. HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.
2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

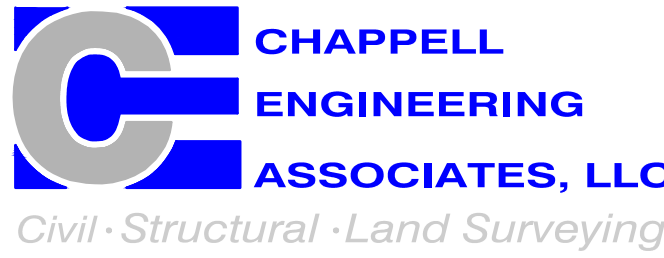
1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
2. SUBCONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLEING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
4. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.
6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANEL BOARD AND CIRCUIT ID'S).
8. PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #3 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE, AND NEC.
16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE
20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
21. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
23. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE, AND NEC.
24. CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
25. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS
27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON- CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

CLIENT:



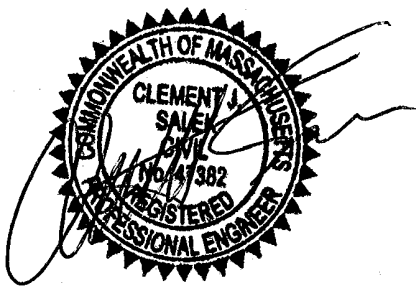
702 RIVERWOOD DRIVE
PEMBROKE, NH 03275

ARCHITECT/ENGINEER:



R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST
SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

SEAL:



ENGINEER/LAND SURVEYOR

DATE

DRAWING SCALE NOTE:

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REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	11/21/22
1	ISSUED FOR CONSTRUCTION (FINAL)	11/22/22

PROJECT NAME:

BOYLSTON WT
STILES ROAD

STILES ROAD
BOYLSTON, MA 01505

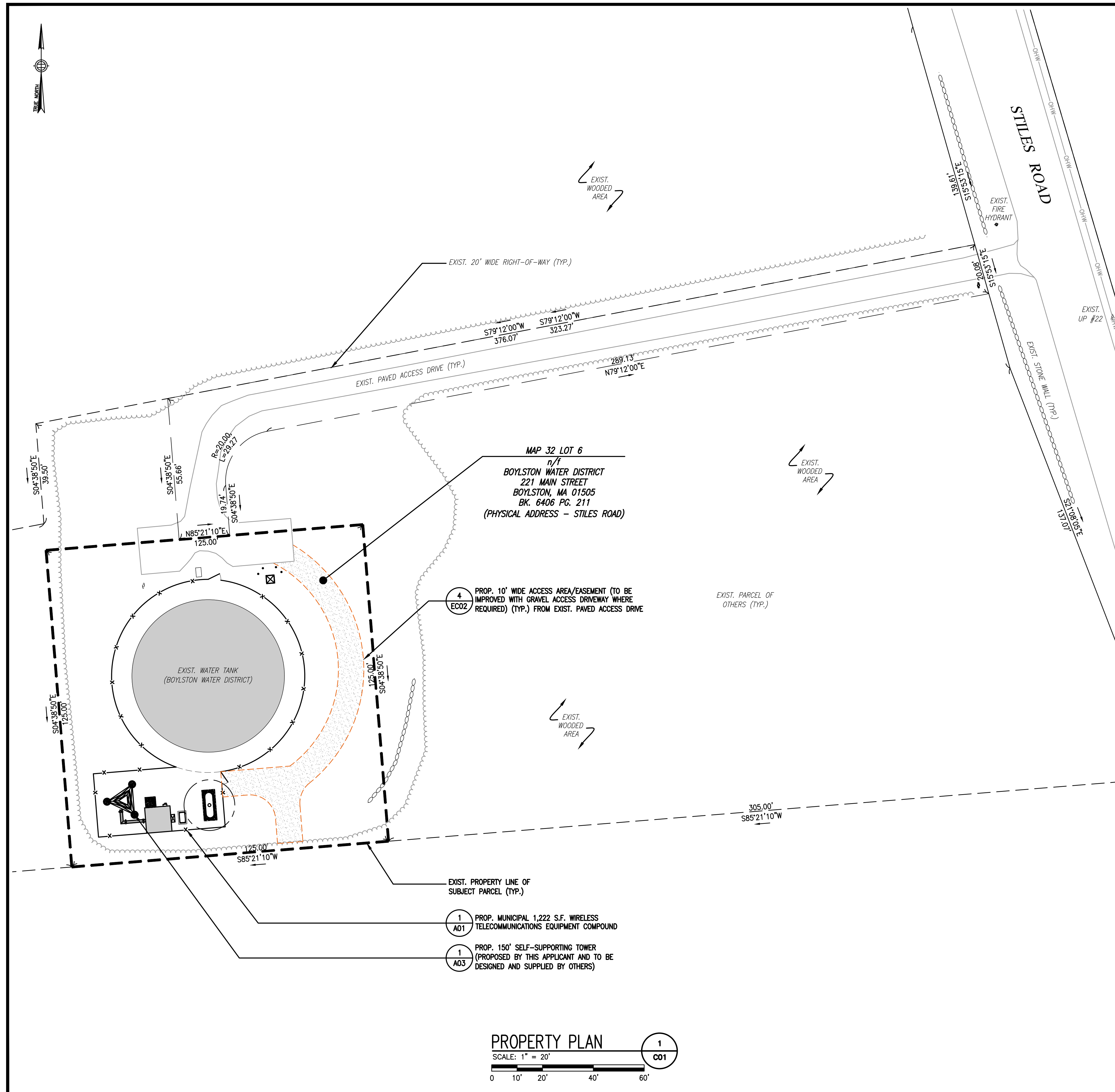
DRAWING TITLE:

GENERAL NOTES

DRAWING NO:



















GN01

SCALE: AS SHOWN	DESIGNED BY: GRS/NWC	SHEET NO.: 2 OF 7
	DRAWN BY: NWC	
	CHECKED BY: GRS	
GEA PROJECT NO.: 754.150	ORIGINAL ISSUE DATE: 11/21/22	



- GENERAL NOTES:**

 1. LIMITED DESIGN VISIT DATE: 9/16/22
 2. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988
(NAVD '88)
 3. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983
(NAD '83)
 4. SITE CONTROL POINT: CENTER OF PROPOSED SELF-SUPPORTING TOWER
LATITUDE: N. 42°-20'-35.88" (42.343300") (NAD '83)
LONGITUDE: W. 71°-42'-22.86" (71.706350") (NAD '83)
 5. LAND OWNER: BOYLSTON WATER DISTRICT
221 MAIN STREET
BOYLSTON, MA 01505
 6. SITE ADDRESS: STILES ROAD
BOYLSTON, MA 01505
 7. APPLICANT: GREEN MOUNTAIN COMMUNICATIONS
702 RIVERWOOD DRIVE
PEMBROKE, NH 03275
 8. ZONING JURISDICTION: TOWN OF BOYLSTON, MA
 9. TAX ID: MAP 32 LOT 6
 10. DEED REFERENCE: BK. 6406 PG. 211
 11. PLAN REFERENCES: TOWN OF BOYLSTON ASSESSOR/GIS MAPS
 12. ZONING CLASSIFICATION: RR (RURAL RESIDENTIAL)
 13. ALL UNDERGROUND UTILITY INFORMATION PRESENTED HEREON WAS DETERMINED FROM SURFACE EVIDENCE AND PLANS OF RECORD. ALL UNDERGROUND UTILITIES SHOULD BE LOCATED IN THE FIELD PRIOR TO THE COMMENCEMENT OF ANY SITE WORK. CALL DIGSAFE 1-888-344-7233 A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY.
 14. THE PROPERTY LINES SHOWN WERE COMPILED UTILIZING TOWN OF BOYLSTON ASSESSOR'S PLANS, GIS, RECORDED DEEDS, PLANS OF REFERENCE AND A LIMITED GROUND SURVEY OF THE PROPERTY PERFORMED BY CHAPPELL ENGINEERING ASSOCIATES ON 9/16/2022.
 15. THE SITE IS LOCATED IN FLOOD HAZARD ZONE X (AREA OF MINIMAL FLOOD HAZARD) AS SHOWN ON FLOOD INSURANCE RATE MAP FOR THE TOWN OF BOYLSTON,
(MAP NUMBER 25027C0629F) EFFECTIVE 07/16/2014.
 16. BEARING SYSTEM OF THIS PLAN IS BASED ON TRUE NORTH. TRUE NORTH WAS ESTABLISHED FROM EXIST. PLAN REFERENCE. IT IS NOT INTENDED TO BE AN EXACT REPRESENTATION OF TRUE NORTH.

- | LEGEND | |
|--|---------------------------|
|  OR  | STREET |
|  | PROPERTY LINE |
|  | ABUTTING PROPERTY LINE |
|  | PROPERTY OFFSET/RADIUS |
|  | EXIST. EASEMENT |
|  | EXIST. CHAIN LINK FENCE |
|  | EXIST. STOCKADE FENCE |
|  | EXIST. EDGE OF PAVEMENT |
|  | EXIST. OVERHEAD UTILITIES |
|  | EXIST. TREELINE |
|  | PROP. TREELINE |
|  | PROP. OVERHEAD UTILITIES |
|  | PROP. UTILITIES |
|  | EXIST. UTILITY POLE |
|  | EXIST. STONE WALL |
|  | ZONING BOUNDARY |
|  | TOWN LINE |


CLIENT:

The logo for Green Mountain Communications features a stylized green mountain peak above the company name. The word "green" is in a bold, lowercase sans-serif font, while "mountain" is in a lighter, lowercase sans-serif font. Below "mountain" is the word "communications" in a smaller, lowercase sans-serif font.

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communications

702 RIVERWOOD DRIVE
PEMBROKE, NH 03275


ARCHITECT/ENGINEER:

 **CHAPPELL
ENGINEERING
ASSOCIATES, LLC**

Civil · Structural · Land Surveying

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ENGINEER/LAND SURVEYOR

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1	ISSUED FOR CONSTRUCTION (FINAL)	11/22/22

PROJECT NAME:

**BOYLSTON WT
STILES ROAD**

STILES ROAD
BOYLSTON, MA 01505

DRAWING TITLE:

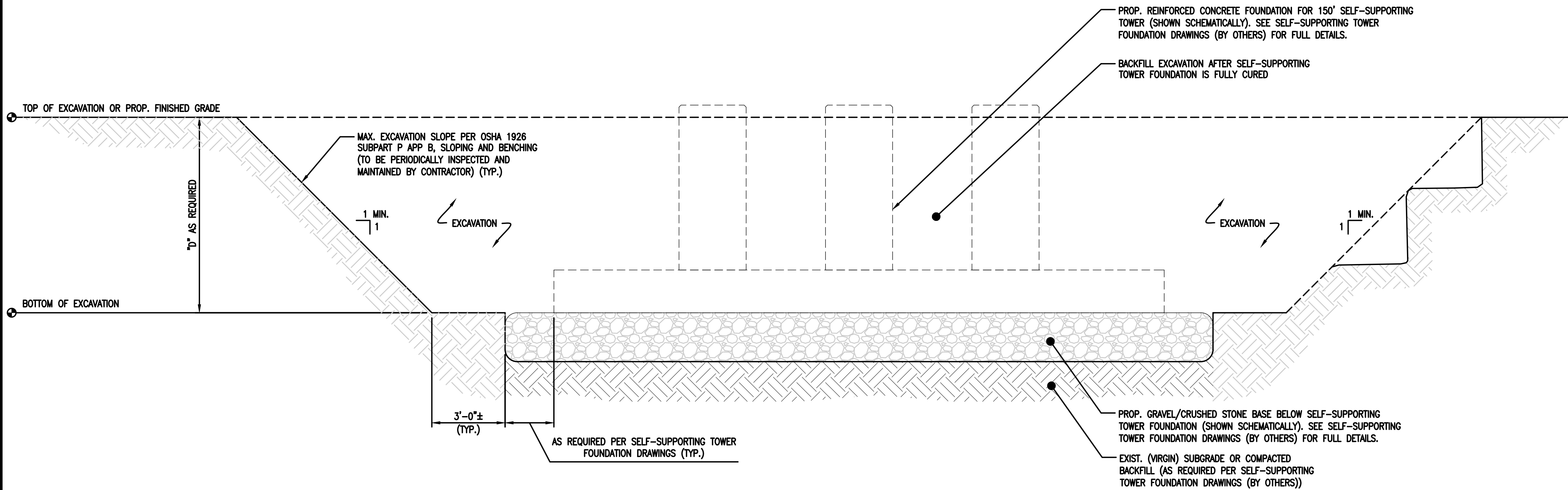
PROPERTY PLAN

DRAWING NO:

C01

SCALE:	DESIGNED BY: GRS/NWC	SHEET NO.: 3 OF 17
1" = 20'	DRAWN BY: NWC	
	CHECKED BY: GRS	
CEA PROJECT NO.: 754.150	ORIGINAL ISSUE DATE: 11/21/22	

SCALE:	DESIGNED BY: GRS/NWC	SHEET NO.: 4 OF 7
$\frac{3}{8}" = 1'-0"$	DRAWN BY: NWC	
	CHECKED BY: GRS	
CEA PROJECT NO.: 754.150	ORIGINAL ISSUE DATE: 11/21/22	



SELF-SUPPORTING TOWER FOUNDATION EXCAVATION DETAIL

SCALE: 3/8" = 1'-0"±

1

EC02

GENERAL EXCAVATION NOTES:

- 1.) ALL EXCAVATION OPERATIONS AND PROCEDURES SHALL BE IN ACCORDANCE WITH THE MASSACHUSETTS STATE BUILDING CODE 780-CMR 9TH EDITION, OSHA REGULATIONS, AND WITH THE REQUIREMENTS OF ALL OTHER GOVERNMENTAL AGENCIES HAVING JURISDICTION. WHERE THE REQUIREMENTS OF VARIOUS CODES AND REGULATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.
- 2.) ALL EXISTING UNDERGROUND UTILITIES IN AND WITHIN THE VICINITY OF THE EXCAVATION SHALL BE PROFESSIONALLY LOCATED AND MAPPED PRIOR TO COMMENCEMENT OF EXCAVATION WORK.
- 3.) THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO THE FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS OR DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.
- 4.) IF UNUSUAL CONDITIONS ARE ENCOUNTERED DURING THE EXCAVATION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY BEFORE PROCEEDING WITH ANY WORK WHICH MAY BE AFFECTED.
- 5.) ANY TIMBER LAGGING DEEMED NECESSARY DURING EXCAVATION OPERATIONS SHALL BE REMOVED DURING BACKFILLING OPERATIONS. ANY TIMBER LAGGING TO BE ABANDONED IN PLACE SHALL BE PRESSURE TREATED.
- 6.) EXCAVATED SLOPES MAY BE INCLINED NOT STEEPER THAN 45° OR SUCH THAT THE AVERAGE SLOPE IS NOT STEEPER THAN 45° WITH NO STEP MORE THAN FIVE FEET HIGH. PROVIDED SUCH SLOPE DOES NOT ENDANGER ANY STRUCTURE, INCLUDING SUBSURFACE STRUCTURES. ALL SIDES OR SLOPES OF EXCAVATIONS OR EMBANKMENTS SHALL BE INSPECTED AFTER RAINSTORMS, OR ANY HAZARD-INCREASING EVENT, AND SAFE CONDITIONS SHALL BE RESTORED.
- 7.) THE ENTIRE PROJECT SITE SHALL BE SECURED WITH FENCING AS REQUIRED TO ENSURE SAFETY THROUGHOUT EXCAVATION OPERATIONS.
- 8.) EXCAVATED MATERIAL (SOIL STOCKPILE(S)) AND SUPERIMPOSED LOADS, SUCH AS EQUIPMENT AND VEHICLES, SHALL NOT BE PLACED CLOSER TO THE EDGE OF THE EXCAVATION THAN A DISTANCE EQUAL TO ONE AND ONE-HALF TIMES THE DEPTH OF SUCH EXCAVATION.

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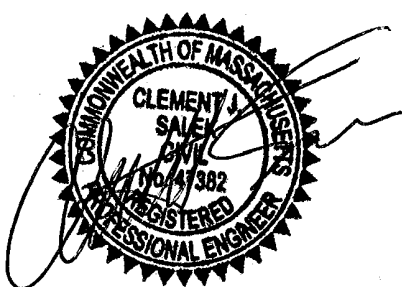
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PEMBROKE, NH 03275

ARCHITECT/ENGINEER:

CHAPPELL
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ENGINEER/LAND SURVEYOR

DATE

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PROJECT NAME:

BOYLSTON WT
STILES ROAD

STILES ROAD
BOYLSTON, MA 01505

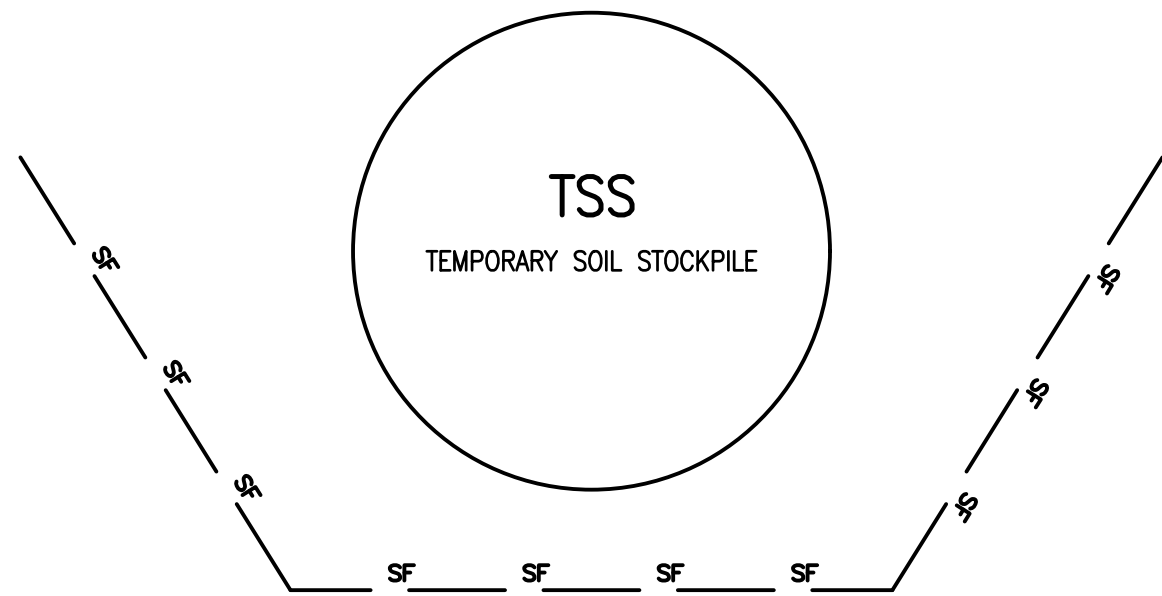
DRAWING TITLE:

SELF-SUPPORTING TOWER
FOUNDATION EXCAVATION
DETAILS & NOTES

DRAWING NO:

EC02

SCALE:	DESIGNED BY: GRS/NWC	SHEET NO.:
AS SHOWN	DRAWN BY: NWC	
CEA PROJECT NO.:	CHECKED BY: GRS	5 OF 7
754.150	ORIGINAL ISSUE DATE:	
	11/21/22	



NOTES

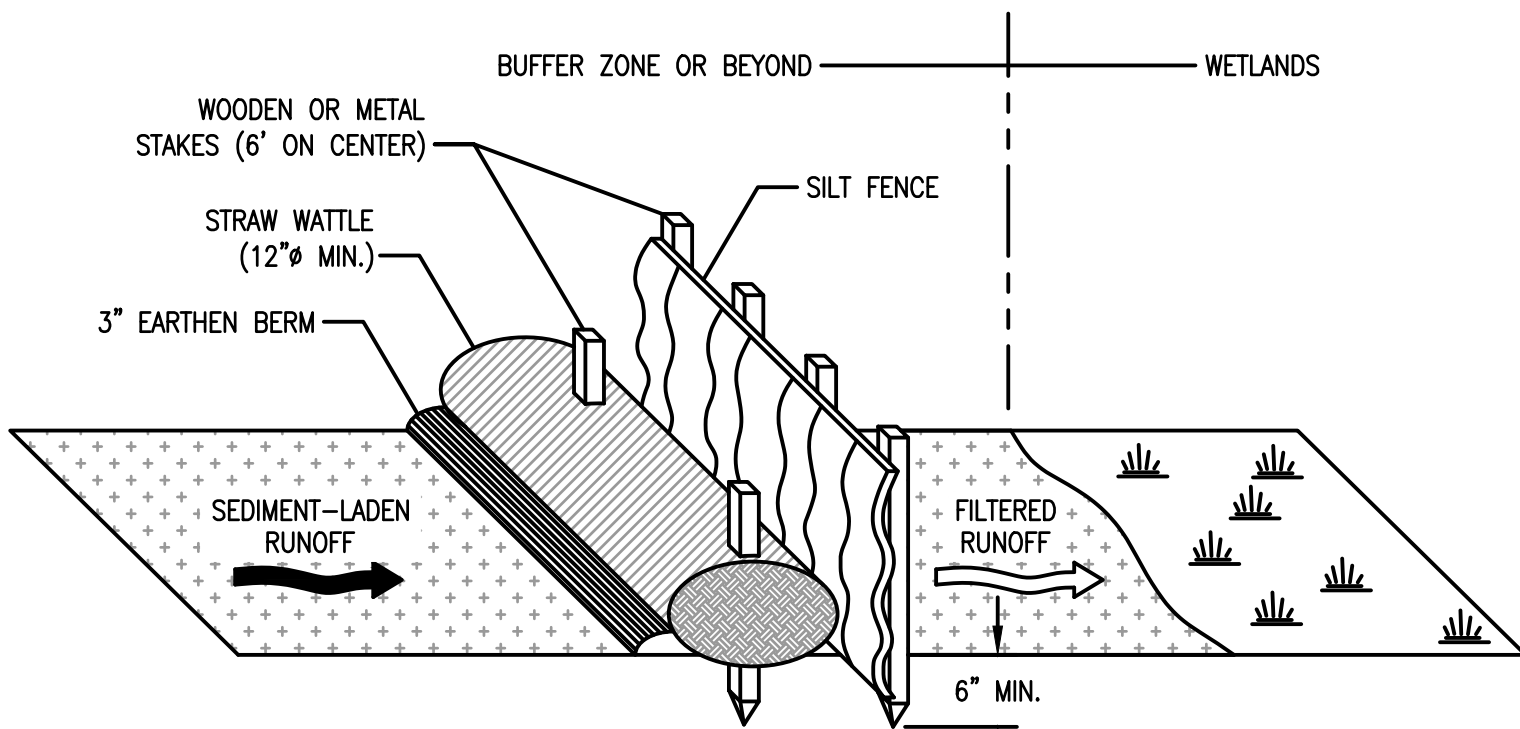
1. AREA CHOSEN FOR STOCKPILE LOCATION SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE IMMEDIATELY SEEDED WITH ANNUAL RYEGRASS.
4. ALL STOCKPILES SHALL BE PROTECTED WITH SILT FENCING INSTALLED ON THE DOWNGRADIENT SIDE.

TEMPORARY SOIL STOCKPILE DETAIL

SCALE: N.T.S.

2

EC02



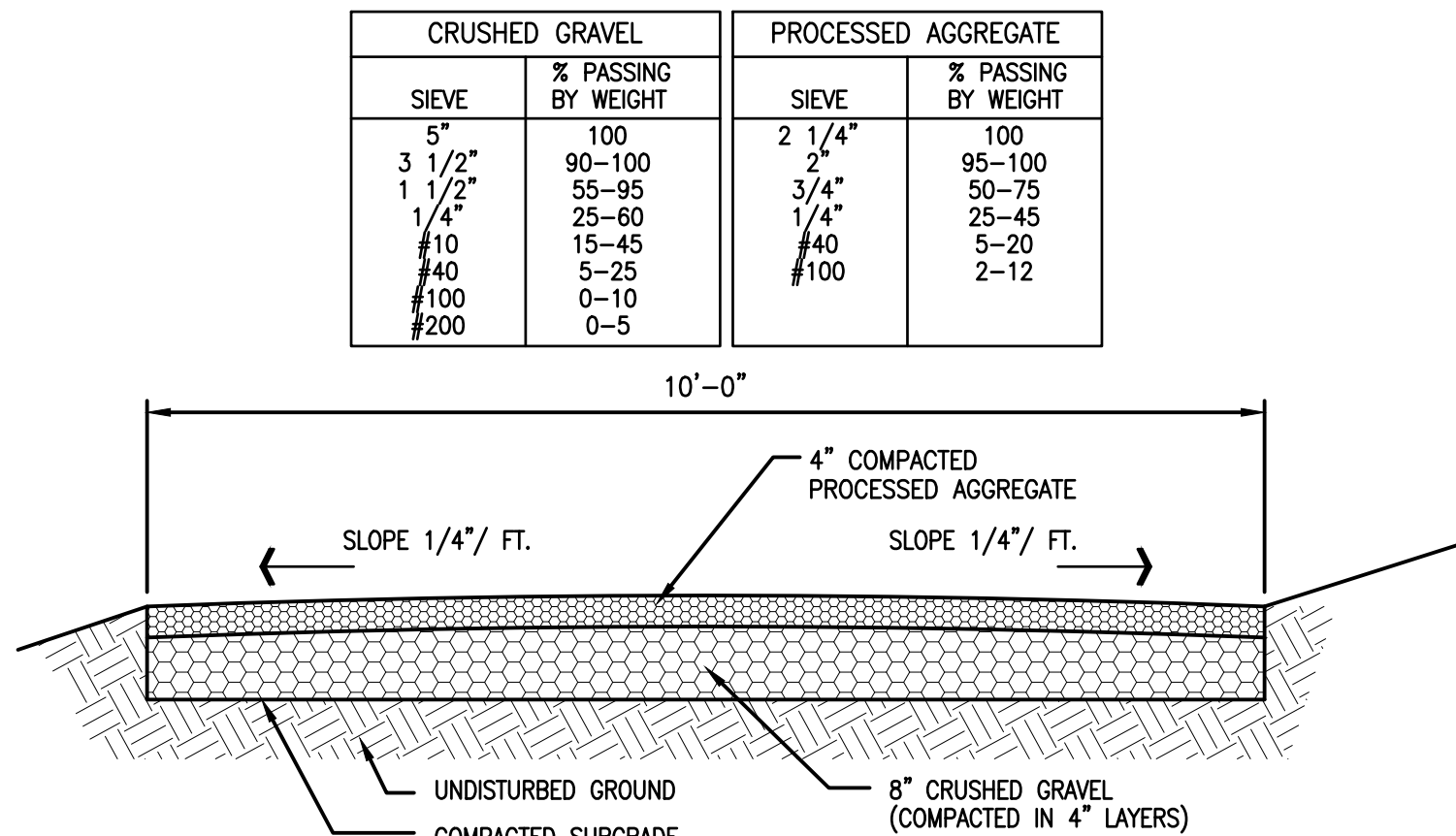
NOTE:
STRAW WATTLE IS TO BE SET FIRMLY INTO GROUND WITH A 3\"/>

TYPICAL EROSION CONTROL BARRIER

SCALE: N.T.S.

3

EC02



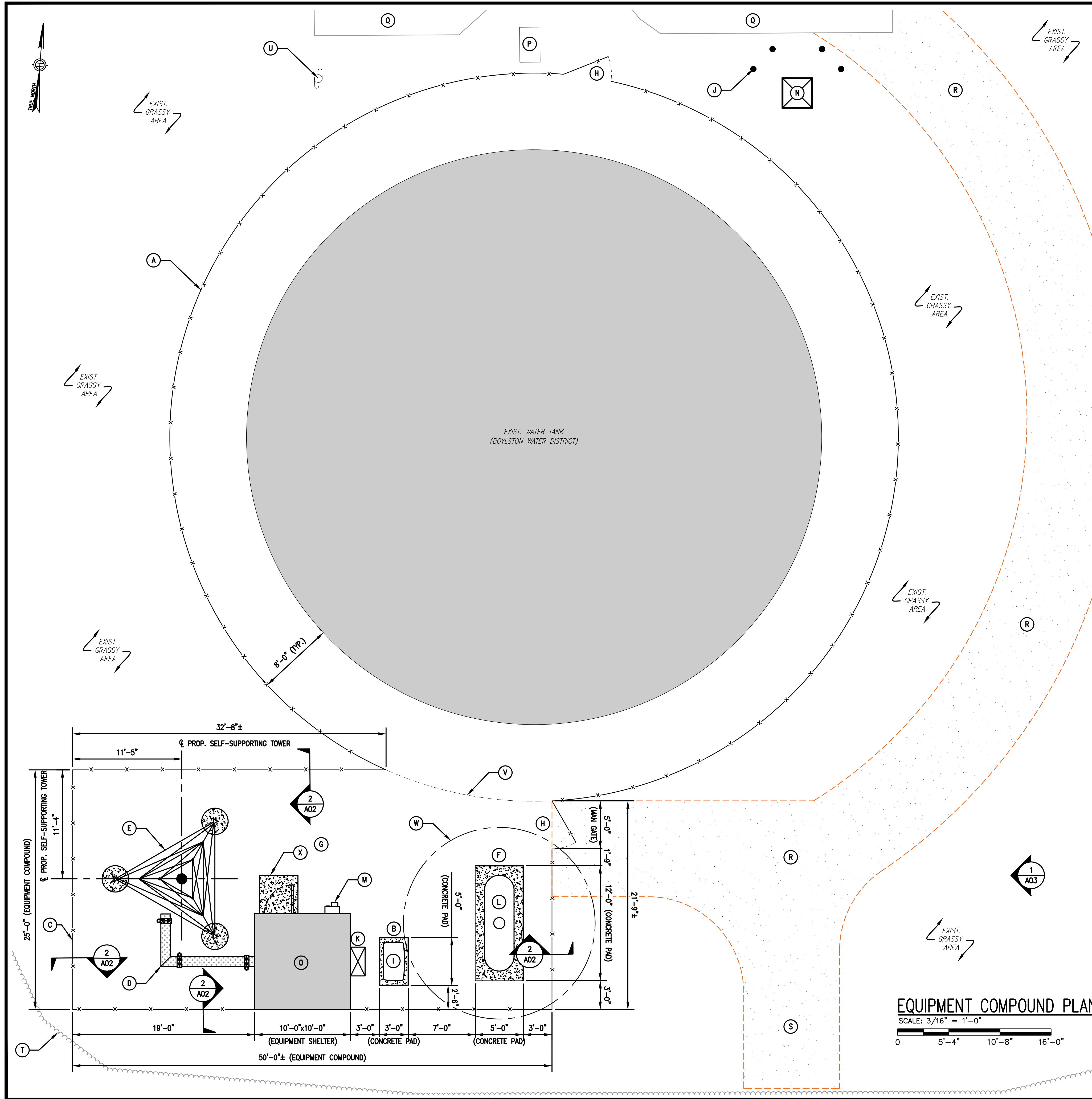
TYPICAL GRAVEL ACCESS DRIVEWAY CROSS SECTION

SCALE: 1/2" = 1'-0"

0 2'-0" 4'-0" 6'-0"

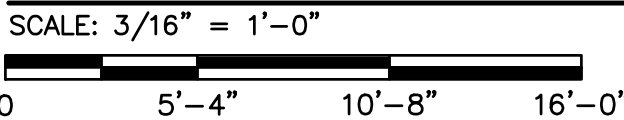
4

EC02



LEGEND	
ITEM	DESCRIPTION
1 A02	(A) PROP. 8' BLACK VINYL COATED MESH CHAIN-LINK FENCE WITH BARBED WIRE RIM SURROUNDING EXIST. WATER TANK (TYP.)
4 S01	(B) PROP. 3'-0"x5'-0" (15 S.F.) REINFORCED CONCRETE PAD
1 A02	(C) PROP. 8' BLACK VINYL COATED MESH CHAIN-LINK FENCE WITH BARBED WIRE RIM ENCLOSING PROP. 1,222 S.F. FENCED AREA (TYP.)
3 A02	(D) PROP. 12" WIDE OVERHEAD CABLE ICE BRIDGE (TYP.)
1 A03	(E) PROP. 150' SELF-SUPPORTING TOWER (PROPOSED BY THIS APPLICANT AND TO BE DESIGNED AND SUPPLIED BY OTHERS)
4 S01	(F) PROP. 5'-0"x12'-0" (60 S.F.) REINFORCED CONCRETE PAD
2 A02	(G) PROP. GRAVEL COVER WITHIN ENTIRE LIMITS OF PROP. EQUIPMENT COMPOUND AS SHOWN
1 A02	(H) PROP. 5' WIDE MAIN GATE
1 E01	(I) PROP. 14 KW BACK-UP PROPANE GENERATOR MOUNTED TO PROP. 3'-0"x5'-0" (15 S.F.) REINFORCED CONCRETE PAD
4 A02	(J) PROP. 6" CONCRETE FILLED STEEL BOLLARD (TYP. OF 4)
- M01	(K) PROP. WALL-MOUNTED AC UNIT (MARVAIR, 11EER, 2-TON COOLING, 5 KW HEAT, 230/208/1/60 ELECTRICS)
- P01	(L) PROP. 500 GALLON WATER CAPACITY (400 GALLON OPERATING CAPACITY) PROPANE TANK ON PROP. 5'-0"x12'-0" (60 S.F.) REINFORCED CONCRETE PAD
(M)	PROP. ELECTRIC METER MOUNTED TO PROP. EQUIPMENT SHELTER (EXACT DETAILS AND DESIGN TO BE DETERMINED BY ELECTRIC UTILITY COMPANY)
(N)	PROP. ELECTRIC TRANSFORMER (EXACT DETAILS TO BE DETERMINED BY ELECTRIC UTILITY COMPANY)
(O)	PROP. 10'-0"x10'-0" (100 S.F.) PREFABRICATED EQUIPMENT SHELTER
(P)	EXIST. ELECTRIC TRANSFORMER
(Q)	EXIST. PAVED ACCESS DRIVE (TYP.)
4 EC02	(R) PROP. 10' WIDE ACCESS AREA/EASEMENT (TO BE IMPROVED WITH GRAVEL ACCESS DRIVEWAY WHERE REQUIRED) (TYP.) FROM EXIST. PAVED ACCESS DRIVE TO PROP. EQUIPMENT COMPOUND. SEE SHEET C01 FOR CONTINUATION TO EXIST. PAVED ACCESS DRIVE.
(S)	PROP. 10'x20' PARKING SPACE/TURN-AROUND AREA
(T)	EXIST. APPROXIMATE TREELINE/BRUSHLINE (TYP.)
(U)	EXIST. UTILITY POLE
(V)	LIMITS OF PROP. GRAVEL COVER
(W)	10' CLEARANCE RADIUS FROM PROP. PROPANE TANK SOURCE OF IGNITION
3 S01	(X) PROP. 4'x4' CONCRETE STOOP

EQUIPMENT COMPOUND PLAN



● SITE CONTROL POINT:
CENTER OF PROPOSED SELF-SUPPORTING TOWER
N 42°-20'-35.88" (42.343300') (NAD '83)
W 71°-42'-22.86" (71.706350') (NAD '83)
PROP. FINISHED GRADE-697.0' AMSL (NAVD '88)
PER GOOGLE EARTH

CLIENT:

702 RIVERWOOD DRIVE
PEMBROKE, NH 03275

ARCHITECT/ENGINEER:

Civil · Structural · Land Surveying
R.K. EXECUTIVE CENTRE
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SEAL:

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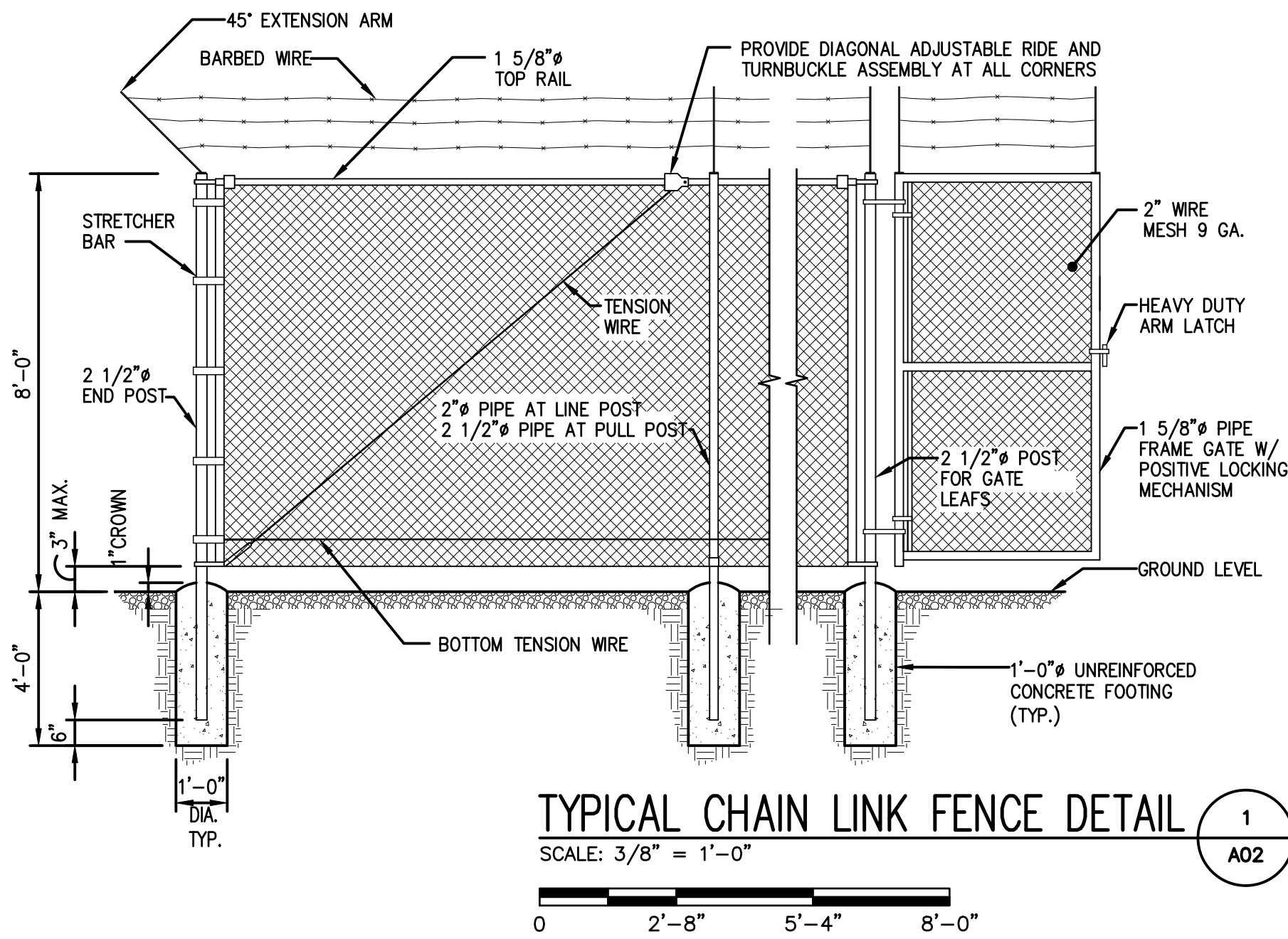
REVISIONS		
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STILES ROAD**
STILES ROAD
BOYLSTON, MA 01505

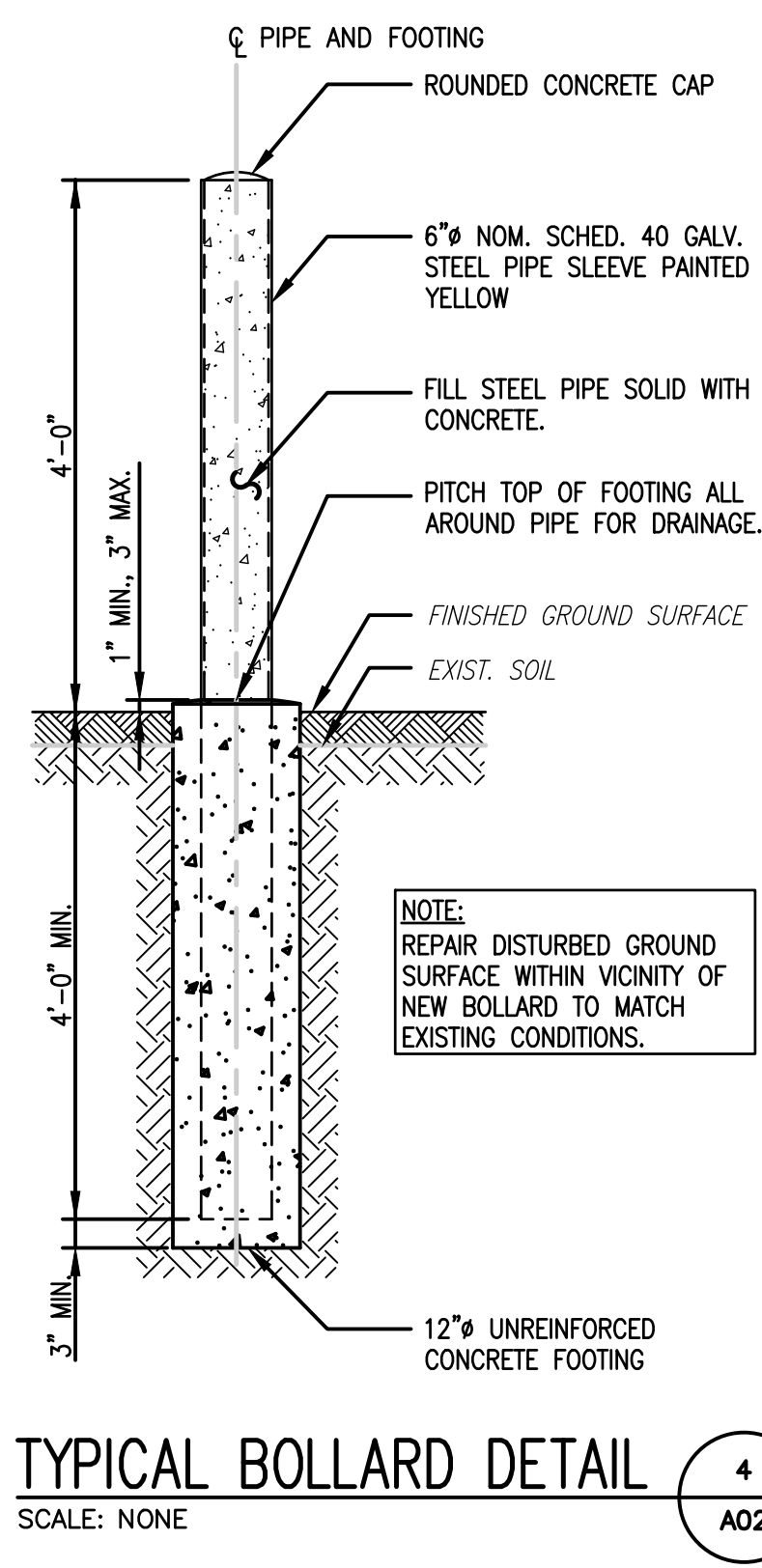
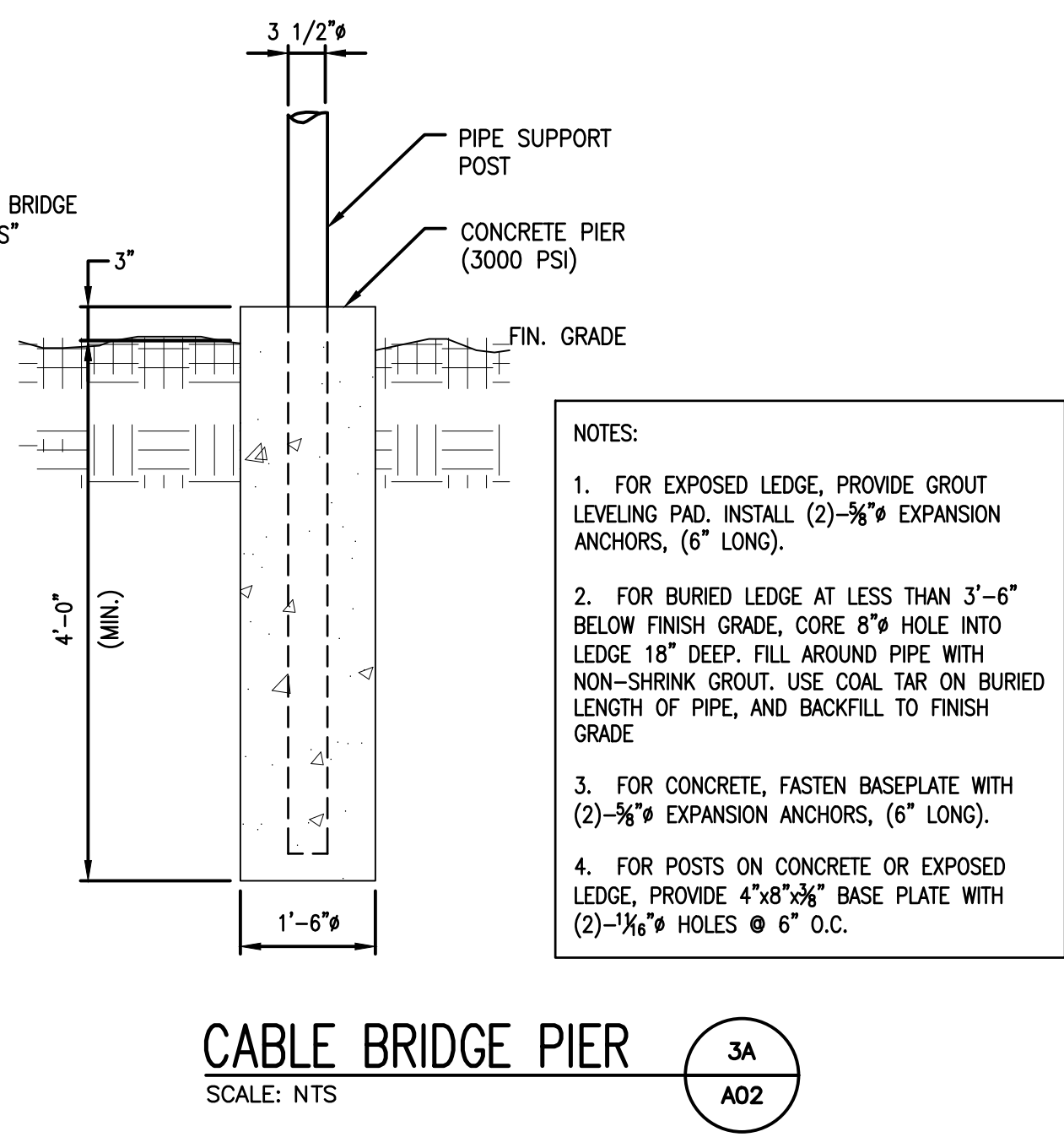
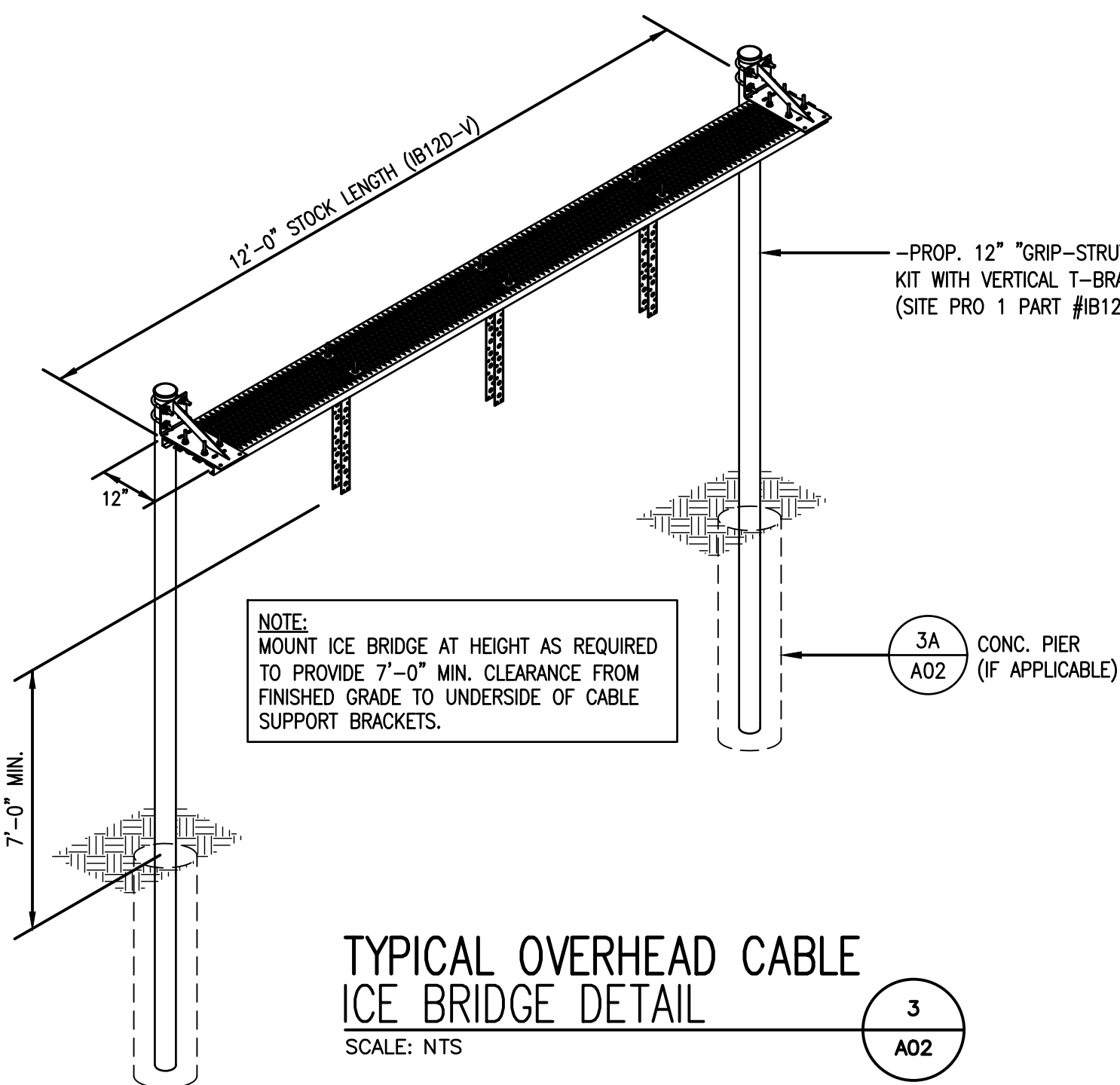
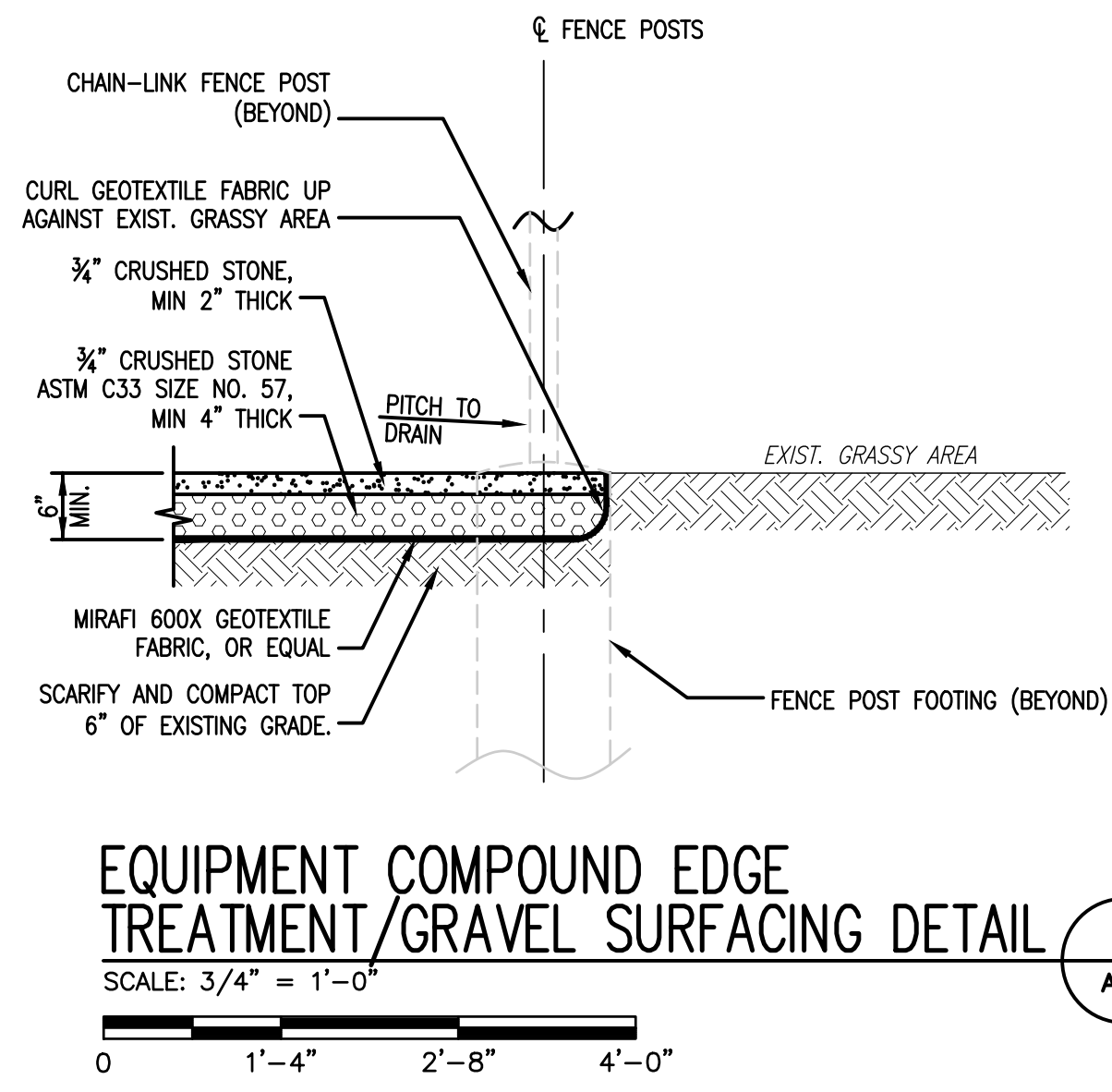
DRAWING TITLE:
**EQUIPMENT
COMPOUND PLAN**

DRAWING NO:
A01

SCALE: 3/16" = 1'-0"	DESIGNED BY: GRS/NWC DRAWN BY: NWC CHECKED BY: GRS	SHEET NO.: 6 OF 7
CEA PROJECT NO.: 754.150	ORIGINAL ISSUE DATE: 11/21/22	



- ### FENCING NOTES
1. INSTALL FENCING PER ASTM F-567, SWING GATE PER ASTM F-900.
 2. ALL POSTS AND TOP RAILS SHALL BE SCHEDULE 40 PIPE PER ASTM F-1083.
 3. ALL FABRIC SHALL BE 12 GA. CORE WIRE SIZE 2" BLACK VINYL COATED MESH CONFORMING TO ASTM A-392.
 4. TENSION WIRE SHALL BE 7 GA. GALV. STEEL
 5. TIE WIRE SHALL BE 11 GA. GALV. STEEL (MIN.) AT POSTS AND RAILS. A SINGLE WRAP FABRIC TIE AT TENSION WIRE BY HOG RINGS SPACED MAX. OF 24" INTERVALS.
 6. STEEL FENCE SYSTEM SHALL INCLUDE THE POSTS, FABRIC, GATE SYSTEM AND ALL NECESSARY ERECTION ACCESSORIES, FITTINGS AND FASTENINGS. ALL FENCE SYSTEM COMPONENTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153. GATES SHALL BE SWING GATES (SEE PLAN FOR SIZES(S)).
 7. BARBED WIRE SHALL BE DOUBLE STRAND 12 1/2" O.D. TWISTED WIRE TO MATCH W/FABRIC 14 GA., 4 PT. BARBS SPACES AT APPROXIMATELY 5" O.C.
 8. COMPLY WITH LOCAL ORDINANCES OF BARBED WIRE PERMIT REQUIREMENTS, IF REQUIRED.



CLIENT:

greenmountain communications

702 RIVERWOOD DRIVE
PEMBROKE, NH 03275

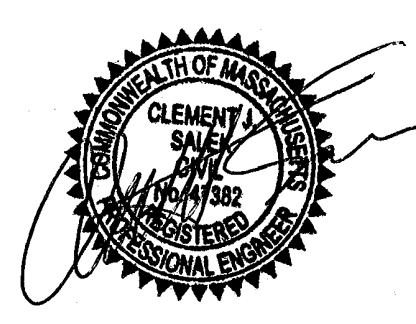
ARCHITECT/ENGINEER:

CHAPPELL ENGINEERING ASSOCIATES, LLC

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STILES ROAD**

STILES ROAD
BOYLSTON, MA 01505

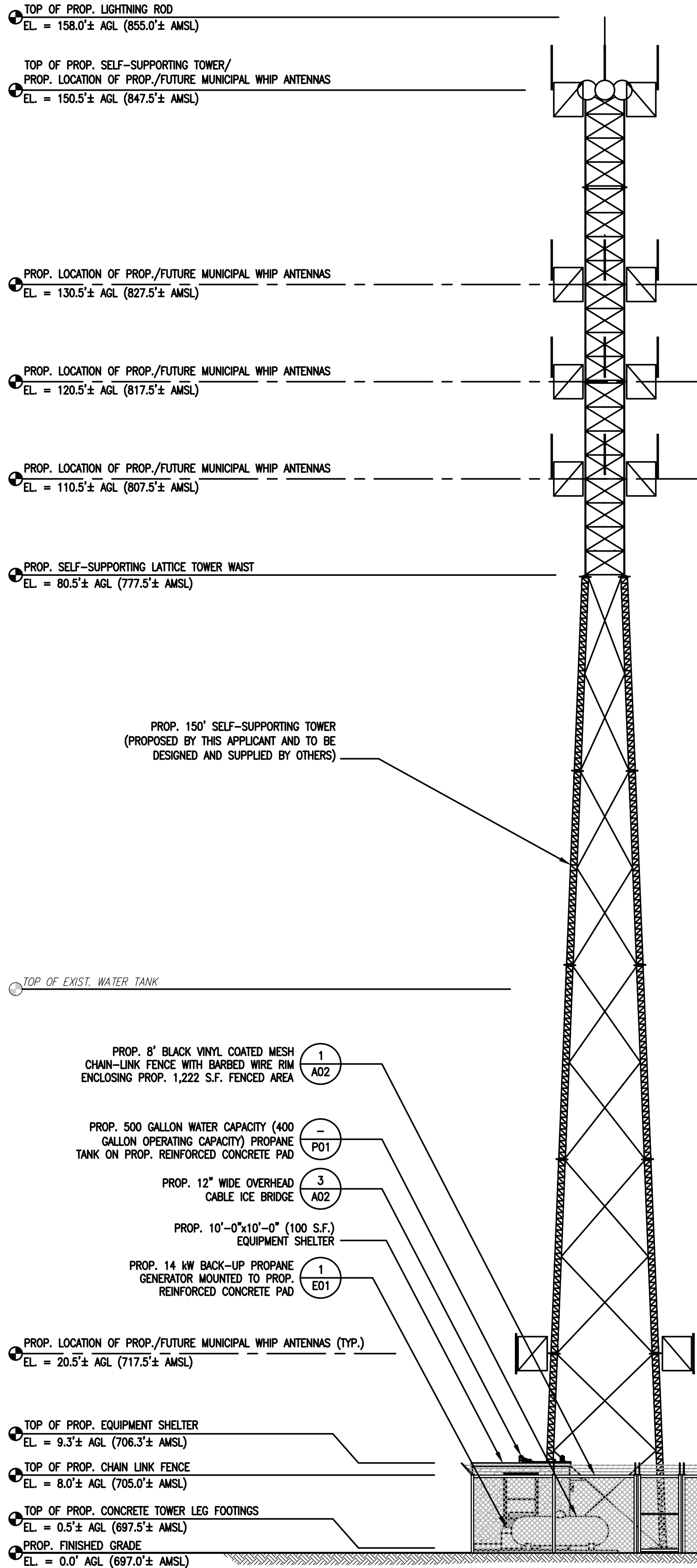
DRAWING TITLE:

SITE DETAILS

DRAWING NO:

A02

SCALE:	DESIGNED BY: GRS/NWC	SHEET NO.:
AS NOTED	DRAWN BY: NWC	7 OF 17
CEA PROJECT NO.:	CHECKED BY: GRS	
754.150	ORIGINAL ISSUE DATE:	
	11/21/22	



EAST SITE ELEVATION

SCALE: 1/8" = 1'-0"

0 8'-0" 16'-0" 24'-0"

1
A03

CLIENT:

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communications

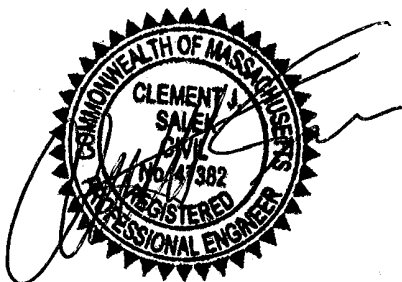
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TO ALTER THIS DOCUMENT.

REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	11/21/22
1	ISSUED FOR CONSTRUCTION (FINAL)	11/22/22

PROJECT NAME:

BOYLSTON WT
STILES ROAD

STILES ROAD
BOYLSTON, MA 01505

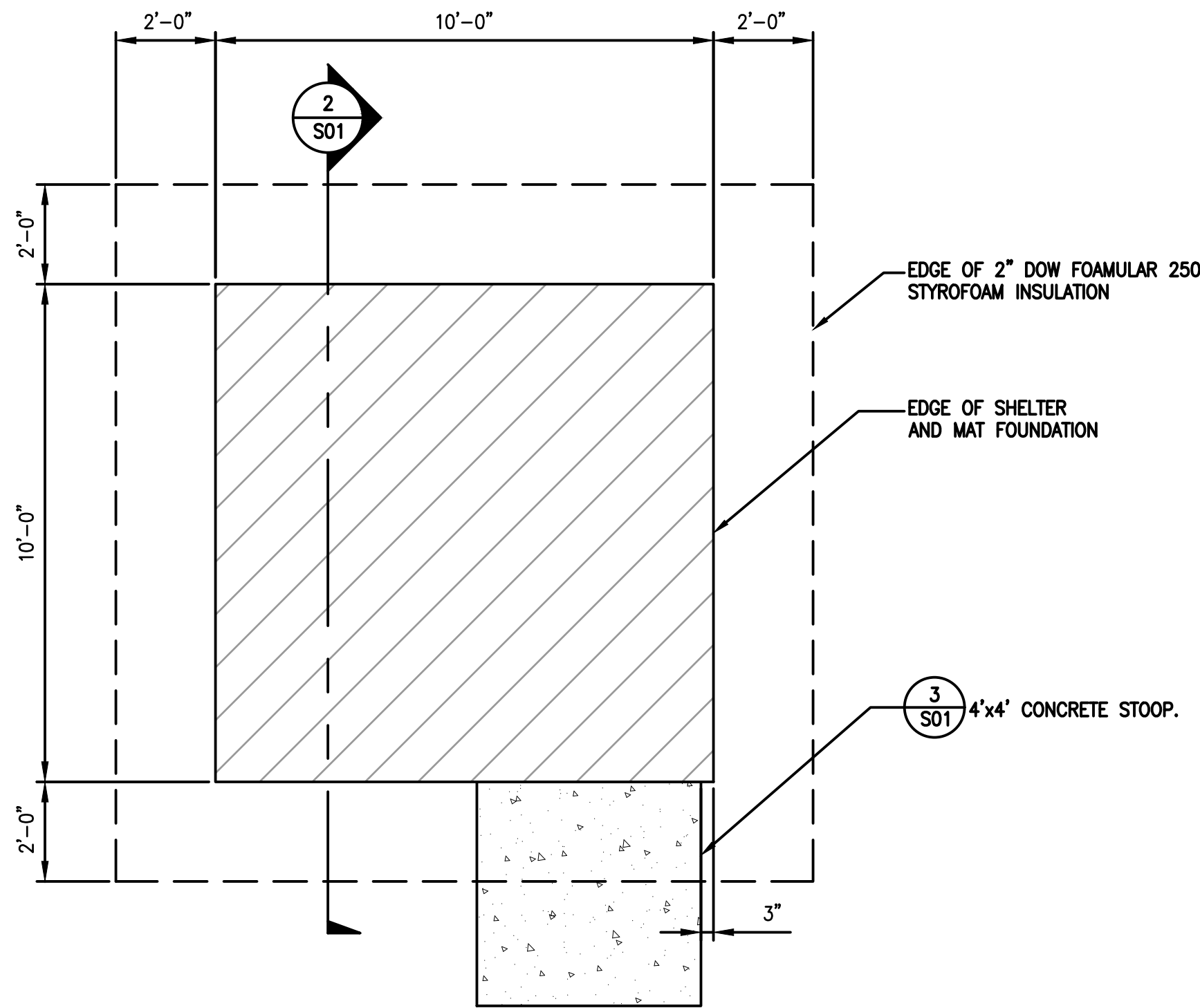
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EAST SITE ELEVATION

DRAWING NO:

A03

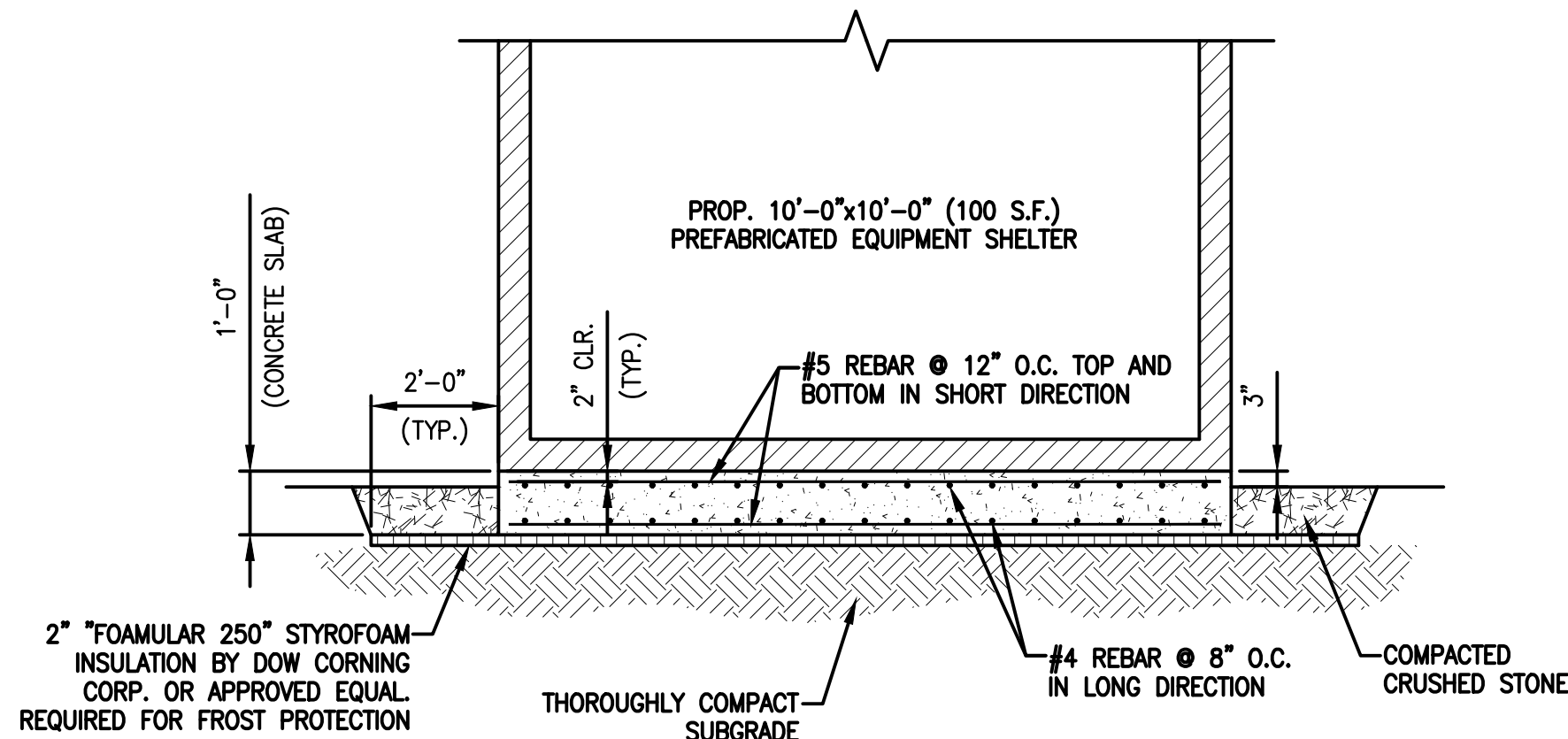
SCALE: 1/8" = 1'-0"	DESIGNED BY: GRS/NWC DRAWN BY: NWC CHECKED BY: GRS	SHEET NO.: 8 OF 17
CEA PROJECT NO.: 754.150	ORIGINAL ISSUE DATE: 11/21/22	



FOUNDATION MAT PLAN

SCALE: 3/8" = 1'-0"

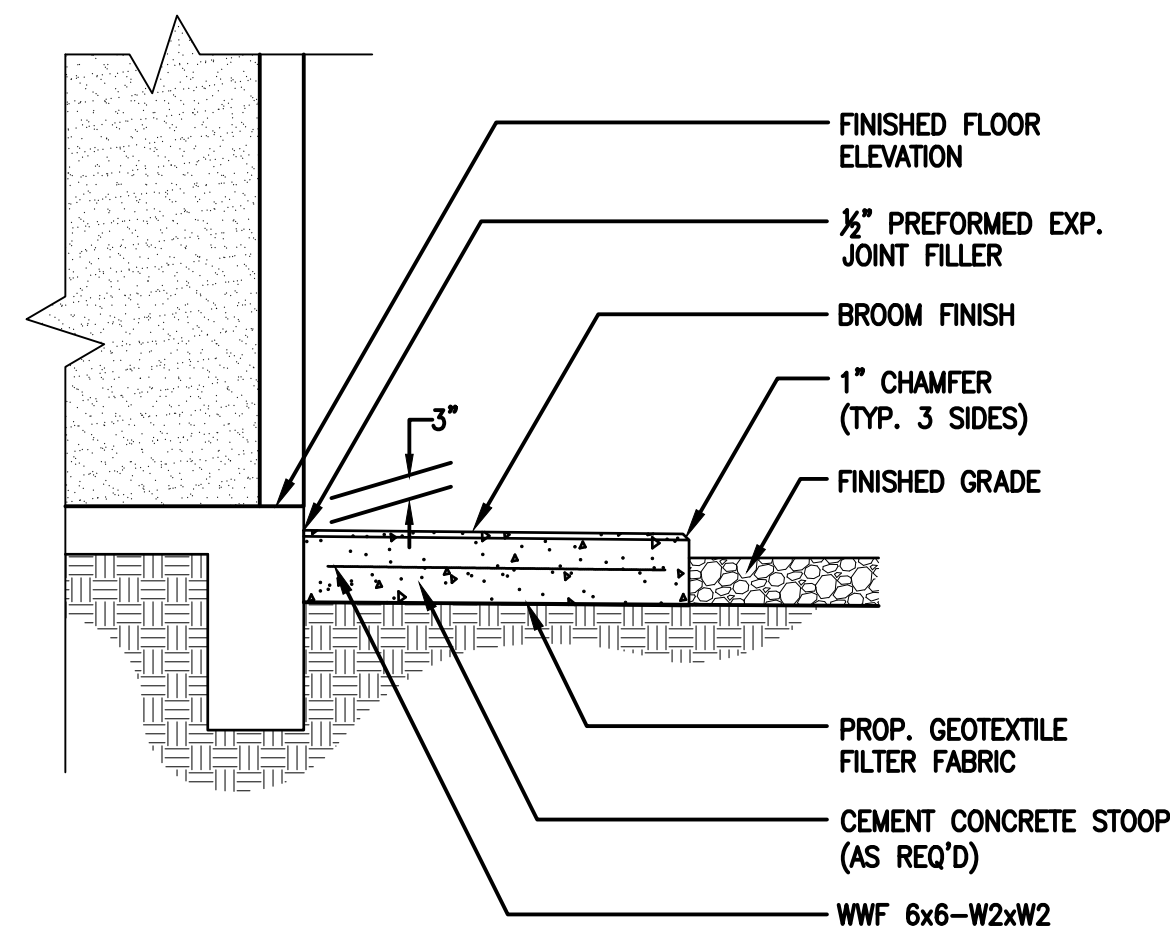
1
S01



TYPICAL SECTION AT EQUIPMENT SHELTER

SCALE: 3/8" = 1'-0"

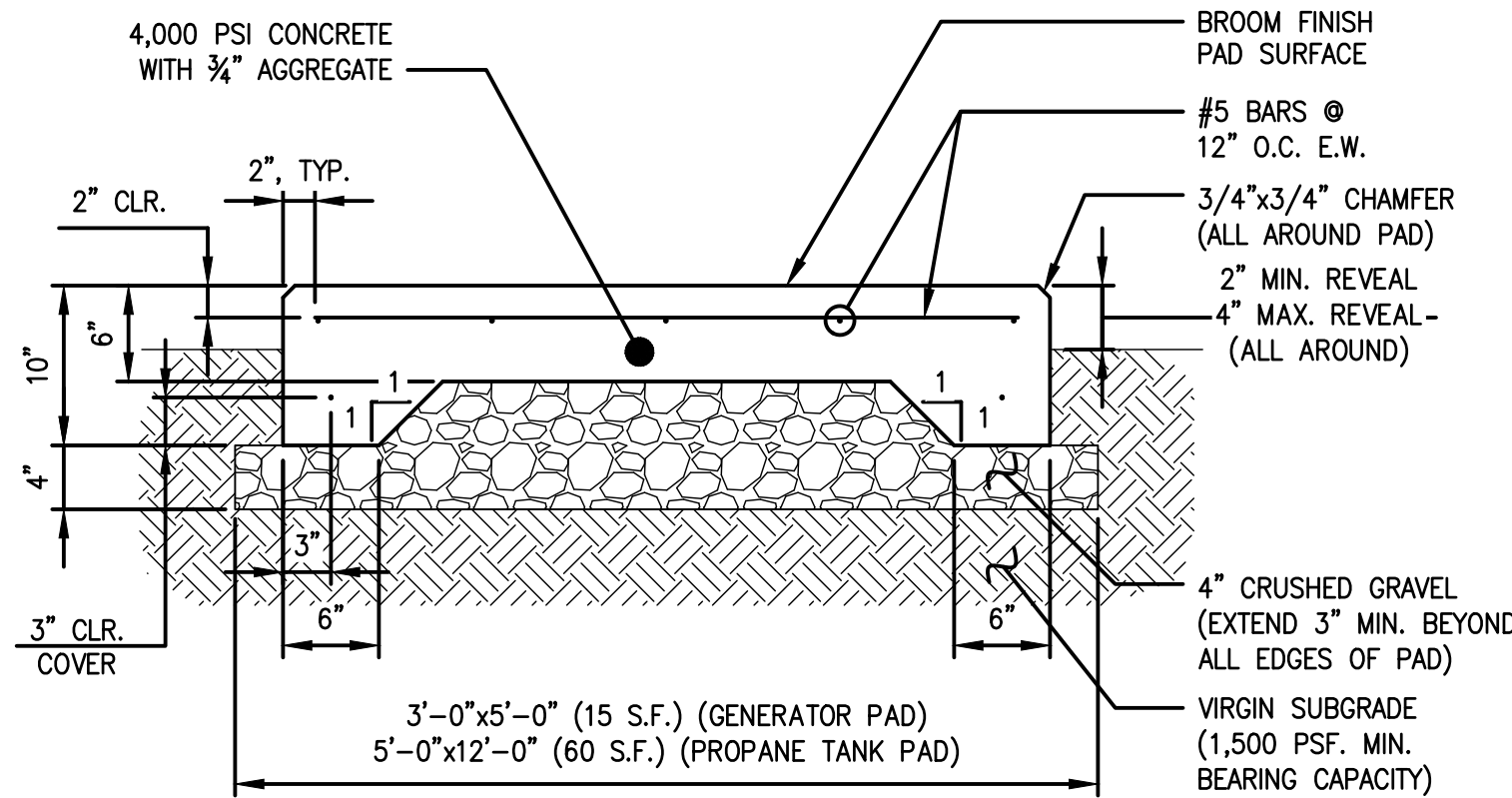
2
S01



CONCRETE STOOP DETAIL

SCALE: 1/2" = 1'-0"

3
S01



TYPICAL REINFORCED CONCRETE PAD DETAIL

SCALE: NONE

4
S01

STRUCTURAL NOTES:

GENERAL NOTES:

- ALL WORK SHALL BE IN ACCORDANCE WITH THE "INTERNATIONAL BUILDING CODE", 2018 EDITION AND WITH THE REGULATIONS OF ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION.
- DESIGN BEARING PRESSURE = 2,000 PSF
- IF ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS AND OR CONDITIONS SPECIFIED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY WORK THAT WOULD BE AFFECTED.
- THE CONTRACTOR SHALL VERIFY FOUNDATION PLAN DIMENSIONS AND COORDINATE ANCHORAGE DETAILS WITH THE PREFABRICATED TELECOMMUNICATION SHELTER MANUFACTURER.

FOUNDATION AND EXCAVATION NOTES:

- ALL WATER SHALL BE REMOVED AT THE BASE OF THE PROPOSED FOUNDATION WALLS BEFORE COMPACTING FILL AND PLACING CONCRETE.
- THE BOTTOM OF THE EXCAVATION SHALL BE INSPECTED BY THE ENGINEER PRIOR TO PLACING GRAVEL.
- FOUNDATION WALLS SHALL BEAR ON AN 12" THICK MINIMUM LAYER OF COMPACTED GRAVEL FILL. THE REINFORCED CONCRETE SLAB SHALL BE PLACED ON A 6 MIL THICK POLYETHYLENE VAPOR BARRIER OVER A 6" THICK MINIMUM LAYER OF COMPACTED GRAVEL FILL. ALL UNSUITABLE MATERIAL (BRICK FRAGMENTS, ASPHALT, CONCRETE BOULDERS, ETC.) WITHIN THE BUILDING AREA AND EXCAVATION SHALL BE REMOVED FROM THE SITE.
- COMPACTED GRAVEL FILL SHALL BE THOROUGHLY COMPACTED IN A MAXIMUM OF 6" LIFTS USING VIBRATORY COMPACTION EQUIPMENT. THE COMPACTION EFFORT SHALL BE INSPECTED BY THE ENGINEER. COMPACTION OF THE GRAVEL FILL ABOVE THE BOTTOM OF THE FOUNDATION IS NOT REQUIRED.
- FOUNDATION WALLS SHALL BE BACKFILLED SIMULTANEOUSLY ON BOTH SIDES, SO THAT THE MAXIMUM VARIATION IS LIMITED TO 8 INCHES.
- THE CONTRACTOR SHALL EMPLOY ALL NECESSARY MEASURES TO SAFEGUARD THE STRUCTURAL INTEGRITY OF ADJACENT STRUCTURES DURING EXCAVATION AND CONSTRUCTION OF FOUNDATIONS. TEMPORARY SHORING SHALL BE EMPLOYED WHEN NECESSARY TO MAINTAIN STABILITY OF EXCAVATIONS DURING CONSTRUCTION.

CONCRETE NOTES:

- ALL DETAILING, FABRICATION AND PLACING OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE ACI DETAILING MANUAL SP-66 (LATEST REVISION).
- CONCRETE CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI318-19".
- CAST-IN-PLACE CONCRETE SHALL BE NORMAL WEIGHT AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. SLUMP SHALL BE 4" (±1"). AIR ENTRAINMENT SHALL BE 8%.
- REINFORCING BARS SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM SPECIFICATION A615. USE CLASS B LAP SPLICES.
- THE CONCRETE SLAB SHALL BE POURED LEVEL WITH WITH A TOLERANCE OF 1/8" OVER 10' IN ALL DIRECTIONS.
- THE SLAB SHALL BE CURED WITH CURING COMPOUND APPLIED AS PER MANUFACTURER'S SPECIFICATIONS.

COMPACTED GRANULAR FILL:

- COMPACTED GRANULAR FILL SHALL CONSIST OF BROKEN OR CRUSHED STONE, OR BANK OR CRUSHED GRAVEL AND SHALL CONSIST OF SOUND, TOUGH DURABLE PARTICLES FREE FROM SOFT, THIN, ELONGATED OR LAMINATED PIECES AND FREE OF MUD, DIRT, VEGETABLE OR OTHER DELETERIOUS SUBSTANCES GRADED AS FOLLOWS:

SQUARE MESH SIZES: PERCENT PASSING BY WEIGHT:

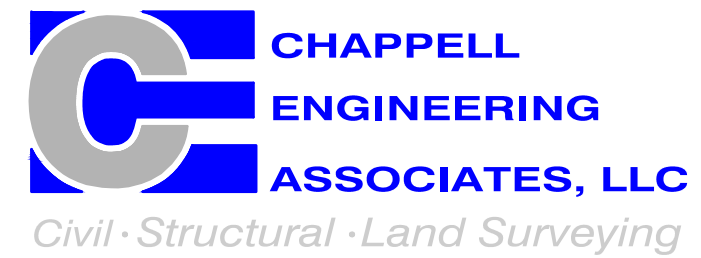
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PASS 1-1/2"	55-100
PASS 3/4"	40-85
PASS 1/4"	25-60
PASS #10	15-45
PASS #40	5-25
PASS #200	0-5

CLIENT:



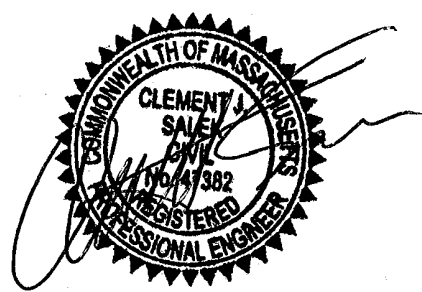
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SEAL:



ENGINEER/LAND SURVEYOR DATE

DRAWING SCALE NOTE:

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PROJECT NAME:

BOYLSTON WT
STILES ROAD

STILES ROAD
BOYLSTON, MA 01505

DRAWING TITLE:

EQUIPMENT SHELTER
FOUNDATION DETAILS

DRAWING NO:

S01

SCALE:	DESIGNED BY: GRS/NWC	SHEET NO.:
AS SHOWN	DRAWN BY: NWC	
	CHECKED BY: GRS	
CEA PROJECT NO.:	ORIGINAL ISSUE DATE:	
754.150	11/21/22	9 OF 17

PROP. 8' BLACK VINYL COATED MESH CHAIN-LINK FENCE WITH BARBED WIRE RIM ENCLOSING PROP. 1,222 S.F. FENCED AREA (TYP.)

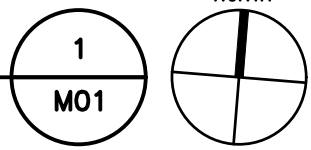
PROP. 150' SELF-SUPPORTING TOWER (PROPOSED BY THIS APPLICANT AND TO BE DESIGNED AND SUPPLIED BY OTHERS)

PROP. GRAVEL COVER (WITHIN COMPOUND)

PROP. 2 TON WALL MOUNTED AC UNIT ATTACHED TO EXTERIOR FACE OF EQUIPMENT SHELTER IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN MOUNTING SPECIFICATIONS ((1) TOTAL)

PROP. 10'-0"x10'-0" (100 S.F.) PREFABRICATED EQUIPMENT SHELTER

MECHANICAL PLAN
SCALE: 1/4" = 1'-0"



MECHANICAL LEGEND

SYMBOL/ABBREVIATION	DESCRIPTION
	PIPE TURNING DOWN
	PIPE TURNING UP
	SHUT-OFF VALVE
	SOLENOID VALVE
	EXPANSION VALVE
	SITE GLASS
	FILTER DRYER
AHU	AIR HANDLING UNIT
CU	CONDENSING UNIT
COND.	CONDENSATE
RS	REFRIGERANT SUCTION
RL	REFRIGERANT LIQUID
TYP.	TYPICAL

HVAC SPECIFICATIONS (AS APPLICABLE)

- FURNISH FOUR (4) COPIES OF MANUFACTURER'S PORTFOLIOS WITH FULL DESCRIPTION OF HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT AND MATERIALS TO BE FURNISHED.
- THE CONTRACTOR SHALL OBTAIN IN TOWN OF BOYLSTON'S NAME, THE STANDARD WRITTEN MANUFACTURER'S GUARANTEE OF ALL MATERIALS FURNISHED UNDER THIS SECTION WHERE SUCH GUARANTEES ARE OFFERED IN THE MANUFACTURER'S PUBLISHED PRODUCT DATA. THE CONTRACTOR SHALL FURTHER GUARANTEE ALL WORK PERFORMED BY HIM FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM THE DATE OF PROJECT COMPLETION AND ACCEPTANCE BY NYNEX MOBILE. IN ADDITION ALL REFRIGERATION EQUIPMENT SHALL BE PROVIDED WITH FIVE (5) YEAR WARRANTIES ON THE COMPRESSORS.
- THE ENTIRE WORK SHALL COMPLY WITH REQUIREMENTS OF ALL STATE AND LOCAL CODES WHICH APPLY. THIS CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR THE PERFORMANCE OF HIS WORK.
- CONTRACTOR SHALL FURNISH FOUR (4) COPIES OF AN OPERATION AND MAINTENANCE MANUAL FOR THE MECHANICAL SYSTEMS.
- FURNISH AND INSTALL, AS HEREINAFTER SPECIFIED, A COMPLETE ELECTRIC TEMPERATURE CONTROL SYSTEM.
- ALL ELECTRICAL WIRING AND WIRING CONNECTIONS REQUIRED FOR THE INSTALLATION OF THE TEMPERATURE CONTROL SYSTEM, AS HEREIN SPECIFIED, SHALL BE PROVIDED BY THE TEMPERATURE CONTROL CONTRACTOR.

ALL WIRING SHALL COMPLY WITH THE REQUIREMENTS OF THE ELECTRICAL SECTION OF THE SPECS.

ALL CONTROL WIRING SHALL BE TAGGED FOR IDENTIFICATION BY THE INSTALLER.

SEQUENCE OF OPERATION:
 - CONTROL OF THE SPACE TEMPERATURE SHALL BE DONE THROUGH THE USE OF THE FACTORY SUPPLIED THERMOSTATS PROVIDED WITH EACH OF THE RESPECTIVE LIEBERT UNITS. EACH OF THESE THERMOSTATS SHALL BE PROGRAMMED WITH A COOLING CONTROL SETPOINT OF 73°F.
 - A CUSTOM MANUFACTURED CONTROL PANEL SHALL BE MANUFACTURED BY CLJ/MAX CONTROL INC. [36 SHERMAN GROVE, SPENCER, MA 01562 (508) 885-9657 FAX (508) 885-3782 OR EQUAL, AND PROGRAMMED TO PROVIDE THE FOLLOWING FUNCTIONS.
 - THE DEMAND FOR THE OPERATION OF THE UNIT WHICH HAD FORMERLY BEEN IN "LEAD" MODE WILL CEASE.
 - DEMAND FOR OPERATION OF THE UNIT WHICH HAD FORMERLY BEEN IN THE "LAG" MODE WILL BE INITIATED.
 - A DRY CONTACT OUTPUT WILL CLOSE INDICATING "LEAD A/C UNIT FAILURE", AT ANY TIME THAT THE TEMPERATURE WITHIN THE SPACE RISES TO 81°F. FOR A DURATION OF 20 MINUTES, A DRY CONTACT OUTPUT WILL CLOSE INDICATING "TOTAL A/C FAILURE".
- AT ANY TIME THAT THE TEMPERATURE WITHIN THE SPACE DROPS TO 45°F. A DRY CONTACT OUTPUT WILL CLOSE INDICATING "FREEZE WARNING".
- AT ANY TIME THAT THE RELATIVE HUMIDITY WITHIN THE SPACE RISES TO 65%, A DRY CONTACT OUTPUT WILL CLOSE INDICATING A "HIGH HUMIDITY" CONDITION IN THE AREA.
- THERMOSTATS SHALL BE LABELED AS TO UNITS SERVED ON THE WALL BELOW EACH WITH KROY ENGRAVED NAMEPLATES, 1 INCH WHITE LETTERS ON BLUE BACKGROUND.
- ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT AND MECHANICAL APPEARANCE.
- IN ADDITION TO TESTS REQUIRED BY THE LOCAL ORDINANCES, THE HVAC CONTRACTOR SHALL CHECK, TEST, CHARGE AND START THE AIR CONDITIONERS AS PER THE MANUFACTURERS INSTRUCTIONS.
- EF-1 AND MOTORIZED LOUVER IN EQUIPMENT SHELTER SHALL BE CONTROLLED BY REVERSED ACTING THERMOSTAT AND TIMER TO VENT SHELTER 5 MINUTES EVERY HOUR.

WORK NOTES (AS APPLICABLE)

- REFRIGERANT SUCTION PIPING SHALL BE INSULATED WITH ARMAFLEX 3/4" THICK PIPE INSULATION. INSULATION SHALL BE SLIPPED OVER PIPING NOT SPLIT AND TAPED. INSULATION SHALL BE COVERED WITH ALUMINUM JACKET, SEALED WATERTIGHT.
- REFRIGERANT PIPING SHALL BE TYPE "L" COPPER.
- PENETRATIONS SHALL BE FIRESTOPPED AND SLEEVED.
- PROVIDE NEOPRENE PADS BOLTED TO CONDENSING UNIT.
- PROVIDE CONDENSATE PUMP FOR EACH AHU.
- RUN CONDENSATE PIPING AT CEILING OUTDOORS TO SUITABLE DRAIN LOCATION
- MAINTAIN ALL MANUFACTURER RECOMMENDED CLEARANCES FOR EQUIPMENT INSTALLATION.
- FINAL LOCATION OF ALL EQUIPMENT SHALL BE COORDINATED WITH THE OWNER IN THE FIELD.
- WORK INCLUDES FURNISHING OF ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND SERVICES NECESSARY FOR AND REASONABLY INCIDENTAL TO THE EXECUTION OF ALL WORK.
- ALL WORK SHALL BE EXECUTED IN ACCORDANCE WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS OF THE AUTHORITY HAVING JURISDICTION. INSTALLATION SHALL BE EXECUTED IN THE BEST WORKMANLIKE MANNER ACCORDING TO THE BEST PRACTICES OF THE TRADES FOR THE TYPE OF PIPING AND EQUIPMENT INSTALLED.
- THE CONTRACTOR SHALL SCHEDULE WORK WITH THE OWNER SO AS NOT TO INTERFERE WITH THE OWNER'S REGULAR WORKING PROCEDURES. IF OWNER CANNOT ALLOW DOWNTIME DURING REGULAR WORKING HOURS, CONTRACTOR SHALL SO SCHEDULE WORK AFTER THE OWNER'S REGULAR WORKING HOURS.
- SUPPORT ALL PIPING FROM THE BUILDING STRUCTURE UNLESS OTHERWISE INDICATED.
- LOAD-CARRYING CAPACITY SHALL BE NOT LESS THAN FIVE TIMES THE OPERATING WEIGHT OF THE SUPPORTED LOAD FOR THE COMPLETE INSTALLATION. THE SUPPORT SPACING SHALL NOT BE GREATER THAN 8 FEET.

CLIENT:

greenmountain
communications

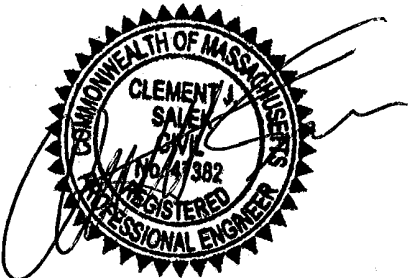
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ARCHITECT/ENGINEER:

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PROJECT NAME:

BOYLSTON WT
STILES ROAD

STILES ROAD
BOYLSTON, MA 01505

DRAWING TITLE:

MECHANICAL PLAN
AND DETAILS

DRAWING NO:

M01

SCALE: AS SHOWN	DESIGNED BY: GRS/NWC DRAWN BY: NWC CHECKED BY: GRS	SHEET NO.: 10 OF 17
CEA PROJECT NO.: 754.150	ORIGINAL ISSUE DATE: 11/21/22	

GENERAL PLUMBING NOTES:

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE AND FULLY OPERATING SYSTEM INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY AS INDICATED ON DRAWINGS AND AS DESCRIBED IN THESE SPECIFICATIONS.
2. THE CONTRACTOR SHALL PERFORM ALL CUTTING, DEMOLISHING, REMOVAL, DISPOSAL, PATCHING, SEALING, RESTORATION AND ALL ELSE REQUIRED TO COMPLETE THE PLUMBING INSTALLATION.
3. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE LOCALLY PRESIDING BUILDING CODE AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
4. THIS CONTRACTOR SHALL PAY ALL FEES AND TAXES, OBTAIN ALL PERMITS AND APPROVALS, FILE THE REQUIRED DOCUMENTS AND CAUSE ALL INSPECTIONS.
5. SHOP DRAWINGS OF THE FOLLOWING SHALL BE SUBMITTED TO THE OWNER'S PROJECT REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION:
 - A. LAYOUT OF ALL EQUIPMENT
 - B. DIMENSIONED AND DETAILED PIPING LAYOUT
 - C. MANUFACTURER'S SPECIFICATIONS OF ALL EQUIPMENT SPECIFIED
 - D. DETAILED CONTROL WIRING DIAGRAMS
6. ALL PIPE HANGERS SHALL BE ATTACHED TO THE BUILDING/SUPPORT STRUCTURE. PROVIDE TRAPEZE SUPPORTS AS REQUIRED.
7. THE DIGGING OF HANGERS, CHOPPING, CORE DRILLING, WORK IN OTHER TENANT SPACES OR OCCUPIED AREAS, WORK CREATING FUMES ETC. OR WORK DEEMED BY THE OWNER TO BE A NUISANCE TO OTHER TENANTS SHALL BE DONE AFTER WORKING HOURS.
8. ALL PENETRATIONS THROUGH FIRE RATED PARTITIONS AND FLOORS SHALL BE FIRESTOPPED WITH HILTI FIRESTOPPING MATERIAL. PROVIDE PIPE SLEEVES FOR ALL PENETRATIONS SEALED WITH AN APPROVED FIRESTOP.
9. THIS CONTRACTOR SHALL FURNISH A ONE (1) YEAR GUARANTEE ON PARTS AND LABOR OF THE INSTALLATION FROM THE DATE OF OWNER ACCEPTANCE AND A FIVE (5) YEAR COMPRESSOR WARRANTY WHERE AVAILABLE.
10. CONTRACTOR SHALL FURNISH ALL NECESSARY CONTROLS, STARTERS, PUMPS, MOTORS, PANELS AND RELAYS ETC. FOR A FULLY FUNCTIONING SYSTEM.
11. BAKELITE LABELS SHALL BE INSTALLED AT ALL NEW EQUIPMENT FOR IDENTIFICATION PURPOSES.
12. ANY REQUIRED SHUTDOWNS OF BASE BUILDING SYSTEMS FOR CONNECTION OF TENANT SYSTEMS MUST BE PRIOR APPROVED AND COORDINATED WITH ALL APPROPRIATE BUILDING/PROPERTY REPRESENTATIVES. THIS CONTRACTOR SHALL ASSUME ALL FEES REQUIRED BY THE OWNER TO ARRANGE AND SUPERVISE THE SHUTDOWN(S).
13. THE CONTRACTOR SHALL VISIT THE LOCATIONS OF ALL PROPOSED WORK AND BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING AND FORECASTED CONDITIONS AND LIMITATIONS.
14. VERIFY ALL EXISTING CONDITIONS. ALL NEW PIPING AND EQUIPMENT SHALL BE COORDINATED WITH ALL EXISTING DUCTWORK, PIPING, ELECTRICAL AND GENERAL SITE CONDITIONS.
15. ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, ELECTRICAL AND GENERAL SITE CONDITIONS SHOWN ARE APPROXIMATE AND EXACT CONDITIONS MUST BE VERIFIED IN THE FIELD THROUGHOUT CONSTRUCTION.
16. ALL WORK SHALL CONFORM TO THE GOVERNING BASE BUILDING/PROPERTY STANDARDS.
17. THE CONTRACTOR SHALL COORDINATE WITH THE BASE BUILDING/PROPERTY MANAGEMENT AS TO THE DELIVERY OF EQUIPMENT AND SCHEDULING OF WORK SO AS TO NOT INTERFERE WITH THE OPERATION OF THE OCCUPIED FACILITIES. ANY REQUIRED SHUTDOWNS OF THE EXISTING BASE BUILDING/PROPERTY SYSTEMS OR WORK OUTSIDE OF THE DEMISING AREA SHALL BE STRICTLY COORDINATED WITH ALL APPROPRIATE BUILDING/PROPERTY REPRESENTATIVES.
18. ALL ANCILLARY POWER AND LINE VOLTAGE WIRING SHALL BE DONE BY A LICENSED AND INSURED ELECTRICAL CONTRACTOR BASED UPON THE DIAGRAMS FURNISHED BY THE MECHANICAL CONTRACTOR.

GENERAL PLUMBING NOTES (CONTINUED):

19. ALL MATERIAL AND APPARATUS SHALL BE NEW AND IN FIRST CLASS CONDITION. ALL MATERIAL AND APPARATUS SHALL HAVE MARKINGS OR A NAMEPLATE IDENTIFYING THE MANUFACTURER AND PROVIDING SUFFICIENT REFERENCE TO ESTABLISH QUALITY, SIZE AND CAPACITY. ALL WORKMANSHIP SHALL BE OF THE FINEST POSSIBLE BY EXPERIENCED MECHANICS OF THE PROPER TRADE. IN GENERAL, ALL MATERIALS AND EQUIPMENT SHALL BE OF COMMERCIAL SPECIFICATION GRADE IN QUALITY. LIGHT DUTY AND RESIDENTIAL TYPE EQUIPMENT WILL NOT BE CONSIDERED ACCEPTABLE. ALL HOISTS, SCAFFOLDS, STAGING, RUNWAYS, TOOLS, MACHINERY AND EQUIPMENT REQUIRED FOR THE PERFORMANCE OF THE WORK SHALL BE FURNISHED BY THIS CONTRACTOR. MATERIAL AND EQUIPMENT SHALL BE STORED AND MAINTAINED IN CLEAN CONDITION AND PROTECTED FROM WEATHER, MOISTURE AND PHYSICAL DAMAGE.
20. THE CONTRACTOR SHALL PERSONALLY INSPECT THE SITE OF THE PROPOSED WORK DURING THE CUSTOMER'S BID WALK OR AS OTHERWISE ARRANGED WITH APPROPRIATE BUILDING/PROPERTY REPRESENTATIVES AND BECOME FULLY INFORMED AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. FAILURE TO DO SO WILL NOT BE CONSIDERED SUFFICIENT JUSTIFICATION TO REQUEST OR OBTAIN EXTRA COMPENSATION OVER AND ABOVE THE CONTRACT PRICE.
21. DIRT AND REFUSE RESULTING FROM THE PERFORMANCE OF THE WORK SHALL BE REMOVED FROM THE PREMISES DAILY TO PREVENT ACCUMULATION. THE CONTRACTOR SHALL COOPERATE IN MAINTAINING REASONABLY CLEAN PREMISES AT ALL TIMES THROUGHOUT CONSTRUCTION. IMMEDIATELY PRIOR TO FINAL INSPECTION, THE CONTRACTOR SHALL PERFORM A FINAL CLEANUP OF DIRT AND REFUSE RESULTING FROM THE WORK PERFORMED. THE CONTRACTOR SHALL CLEAN ALL MATERIAL AND EQUIPMENT INSTALLED UNDER THE CONTRACT. DIRT, DUST, PLASTER, STAINS AND ALL FOREIGN MATTER SHALL BE REMOVED FROM ALL SURFACES. DAMAGED FINISHES SHALL BE TOUCHED UP AND RESTORED TO THEIR ORIGINAL CONDITION.
22. THE DRAWINGS ARE SCHEMATIC IN NATURE, BUT SHOW THE VARIOUS COMPONENTS OF THE SYSTEMS APPROXIMATELY TO SCALE AND ATTEMPT TO INDICATE HOW THEY ARE TO BE INTEGRATED WITH OTHER PARTS OF THE BUILDING/STRUCTURE. FIGURED DIMENSIONS SHALL BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS. DETERMINE EXACT LOCATIONS BY FIELD MEASUREMENTS, CHECKING THE REQUIREMENTS OF OTHER TRADES AND BY REVIEWING ALL CONTRACT DOCUMENTS. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ERRORS WHICH COULD HAVE BEEN AVOIDED BY PROPER CHECKING AND INSPECTION.

GAS PIPING NOTES:

1. GAS PIPING SHALL BE DESIGNED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE LATEST REVISION AND IN ACCORDANCE WITH NFPA 54.
2. GAS PIPE SIZING SHALL BE BASED ON TABLE M-805.4.1(2) IN THE BOCA NATIONAL MECHANICAL CODE. A MAXIMUM PIPE LENGTH OF 200 FT. SHALL BE USED FOR THIS DESIGN.
3. GAS PIPING SHALL BE OF MATERIAL SPECIFIED ON PLANS WITH ALL INDUSTRY STANDARD FITTINGS. WHERE GAS PIPING CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG THE FULL SIZE OF THE SUPPLY PIPE, A 100% SHUT-OFF GAS COCK AND A UNION.
4. GAS PIPING HANGERS AND SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF "STANDARD PRACTICE FOR PIPE HANGERS AND SUPPORTS - MATERIALS, DESIGN, MANUFACTURE, SELECTION, APPLICATION AND INSTALLATION" (ANSI/MSS SP-58-2009). ALL PIPE SHALL BE SUPPORTED IN A NEAT AND WORKMANLIKE MANNER.
5. PORTIONS OF A GAS PIPING SYSTEM INSTALLED IN CONCEALED LOCATIONS SHALL NOT HAVE UNIONS, TUBE FITTINGS OR RUNNING THREADS. NO GAS VALVES SHALL BE INSTALLED IN ABOVE CEILING OR BELOW GRADE LOCATIONS.
6. ALL GAS VENTS FROM PRESSURE RELIEF OR PRESSURE LIMITING DEVICES SHALL BE PIPED THE FULL OUTLET SIZE AND SHALL BE FITTED WITH AN AGA APPROVED FITTING WITH INSECT SCREEN. PROVIDE CAULKING OR PROPER FLASHING AT VENTS.
7. BRANCH OUTLET PIPES SHALL BE TAKEN FROM THE TOP OR SIDES OF THE HORIZONTAL LINES AND NOT THE BOTTOM.
8. USE DIELECTRIC UNIONS WHERE DISSIMILAR METALS ARE JOINED TOGETHER.
9. INSPECT, TEST AND PURGE THE GAS PIPING SYSTEM IN ACCORDANCE TO NFPA 54 - PART 4 AND ALL LOCAL REQUIREMENTS. MINIMUM REQUIREMENTS SHALL BE 5 PSIG FOR A PERIOD OF 2 HOURS.

PLUMBING PROCEDURAL, PREPARATION AND TESTING NOTES:

1. DUE TO THE NATURE OF THIS SYSTEM AND OTHER SIMILAR SYSTEMS IN USE BY THE OWNER, THE CONTRACTOR SHALL PROVIDE THE SYSTEMS AS SPECIFIED. SUBSTITUTIONS SHALL NOT BE CONSIDERED AT THIS TIME UNLESS DIRECTED BY OWNER.
2. ALL WORK WITHIN LIVE ELECTRICAL PANELS SHALL OCCUR DURING HOURS ACCEPTABLE TO THE PANEL OWNER.
3. THE CONTRACTOR SHALL PROVIDE TWO (2) DAYS ADVANCED NOTIFICATION OF ALL DELIVERIES TO THE SITE AND SEVEN (7) DAYS ADVANCED NOTIFICATION OF ANY REQUIRED SERVICE SHUT-DOWNS.
4. THE CONTRACTOR SHALL MAINTAIN INTERFACE WITH THE OWNER AND WITH ALL OF THEIR CONTRACTORS, VENDORS AND ENGINEERING FIRMS.
5. THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING TO BE HELD AT THE JOB SITE OR IN THE AREA WHERE THE INSTALLATION WILL TAKE PLACE.
6. PRIOR TO THE START OF CONSTRUCTION, ALL WORKERS SHALL BE BRIEFED ON ALL SAFETY REQUIREMENTS PERTINENT TO THE WORKING ENVIRONMENT.
7. THE CONTRACTOR SHALL INSURE THE AVAILABILITY AND ACCESSIBILITY OF ADEQUATE ON-SITE FIRE EXTINGUISHERS, SAFETY EQUIPMENT BOARDS AND FIRST AID STATIONS.
8. ALL CONNECTIONS, TEST MEASUREMENTS AND ADJUSTMENTS SHALL BE DIRECTLY WITNESSED BY AN OWNER APPROVED PROJECT SUPERVISOR.
9. PRIOR TO THE START-UP OF THE SYSTEMS, THE CONTRACTOR SHALL CHECK ALL COMPONENTS AND DEVICES, LUBRICATE ITEMS ACCORDINGLY AND TIGHTEN ALL CONNECTIONS. AFTER ALL SYSTEMS HAVE BEEN INSPECTED AND ADJUSTED, CONFIRM ALL OPERATING FEATURES REQUIRED BY THE DRAWINGS AND SPECIFICATIONS AND MAKE FINAL ADJUSTMENTS AS NECESSARY.
10. APPROPRIATE FACTORY REPRESENTATIVES SHALL BE ON SITE TO COMMISSION THE SYSTEM.
11. CONTRACTOR SHALL INSPECT AND TEST ALL PIPING AND EQUIPMENT IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND EQUIPMENT MANUFACTURER'S INSTRUCTIONS.
12. AUTHORIZED PERSONNEL SHALL CONDUCT CLEANING, PURGING AND TESTING PROCEDURES. TESTING OF PIPING SHALL UTILIZE HYDROSTATIC OR PNEUMATIC MEASURES. OXYGEN OR LP GAS IS NOT TO BE USED.
13. PURGE PIPING WITH INERT GAS PRIOR TO INTRODUCING LP GAS.
14. CONDUCT A FUNCTIONAL TEST OF ALL ISOLATION VALVES, EXCESS FLOW VALVES AND PRESSURE RELIEF VALVES.
15. CONTRACTOR SHALL SUBMIT TO THE OWNER THREE (3) COPIES EACH OF MATERIAL FOR MAINTENANCE AND OPERATION INSTRUCTION MANUALS APPROPRIATELY BOUND INTO MANUAL FORM INCLUDING APPROVED COPIES OF MANUFACTURER'S CATALOG SHEETS, WIRING DIAGRAMS, MAINTENANCE INSTRUCTIONS, OPERATING INSTRUCTIONS AND PARTS LISTS (REVISED IF NECESSARY TO SHOW SYSTEM AND EQUIPMENT AS ACTUALLY INSTALLED). CONTRACTOR SHALL ALSO PROVIDE ADEQUATE VERBAL INSTRUCTIONS OF SYSTEM OPERATION AND RE-START TO OWNER'S REPRESENTATIVE AT THE CONCLUSION OF THE WORK.

GENERATOR: TBD
SUPPLIED BY TOWN OF BOYLSTON,
INSTALLED BY CONTRACTOR.

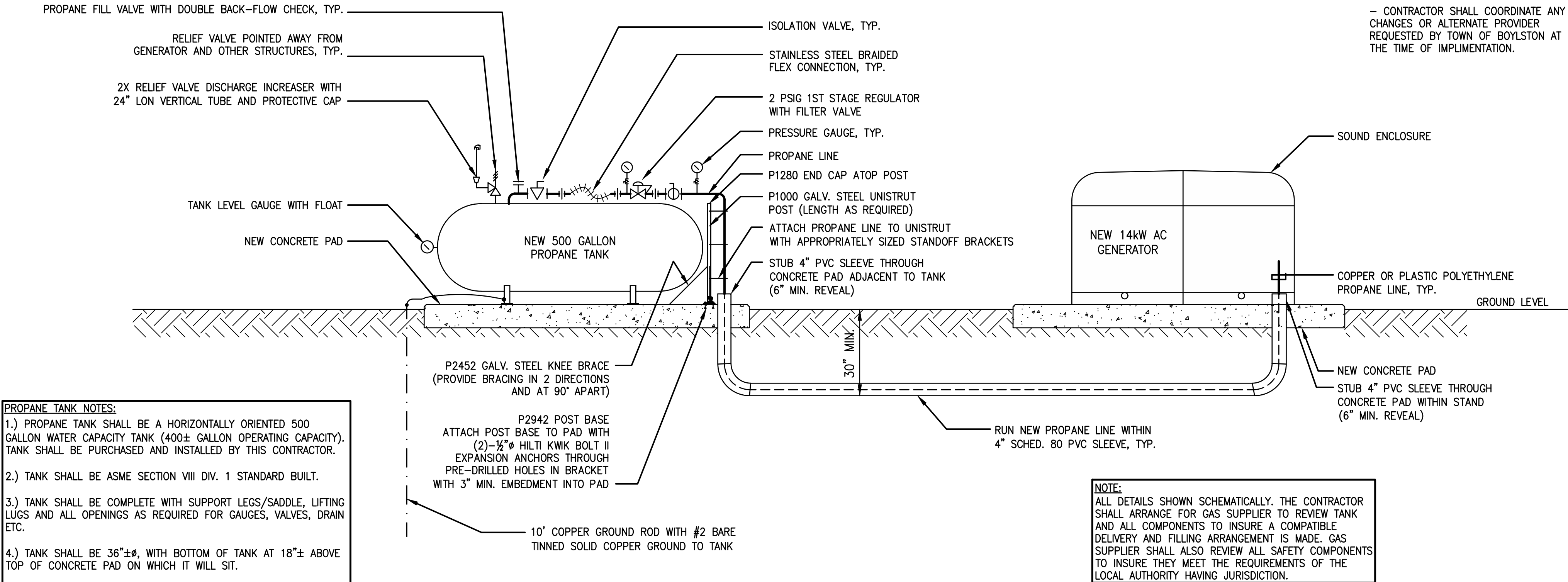
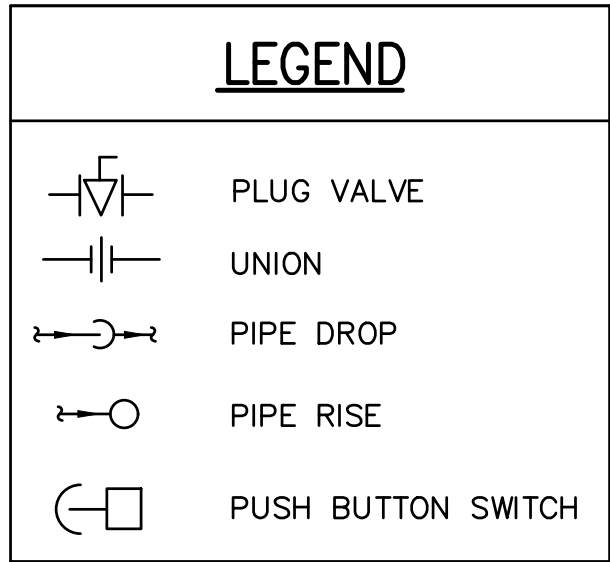
CONTRACTOR SHALL OBTAIN FULL
SPECIFICATIONS FROM TOWN OF
BOYLSTON PRIOR TO BID.

CONTRACTOR SHALL ARRANGE FOR
GENERATOR START-UP SERVICES.

PROPANE GAS ACCOUNT:
CONTRACTOR SHALL ARRANGE FOR NEW GAS
ACCOUNT TO BE ESTABLISHED WITH
CONSUMERS PROPANE, TOWN OF BOYLSTON
TO SUPPLY INFORMATION FOR ACCOUNT.

ckSmith SUPERIOR
99 CRESCENT STREET
WORCESTER, MA 01605
(508) 753-1475

- CONTRACTOR SHALL COORDINATE ANY
CHANGES OR ALTERNATE PROVIDER
REQUESTED BY TOWN OF BOYLSTON AT
THE TIME OF IMPLEMENTATION.



- PROPANE TANK NOTES:**
- 1.) PROPANE TANK SHALL BE A HORIZONTALLY ORIENTED 500 GALLON WATER CAPACITY TANK (400± GALLON OPERATING CAPACITY). TANK SHALL BE PURCHASED AND INSTALLED BY THIS CONTRACTOR.
 - 2.) TANK SHALL BE ASME SECTION VIII DIV. 1 STANDARD BUILT.
 - 3.) TANK SHALL BE COMPLETE WITH SUPPORT LEGS/SADDLE, LIFTING LUGS AND ALL OPENINGS AS REQUIRED FOR GAUGES, VALVES, DRAIN ETC.
 - 4.) TANK SHALL BE 36"±#, WITH BOTTOM OF TANK AT 18"± ABOVE TOP OF CONCRETE PAD ON WHICH IT WILL SIT.
 - 5.) TANK SHALL BE FACTORY PRIMED AND PAINTED WHITE TO INDUSTRY STANDARDS.

NOTE:
ALL DETAILS SHOWN SCHEMATICALLY. THE CONTRACTOR SHALL ARRANGE FOR GAS SUPPLIER TO REVIEW TANK AND ALL COMPONENTS TO INSURE A COMPATIBLE DELIVERY AND FILLING ARRANGEMENT IS MADE. GAS SUPPLIER SHALL ALSO REVIEW ALL SAFETY COMPONENTS TO INSURE THEY MEET THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.

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ARCHITECT/ENGINEER:

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SEAL:



ENGINEER/LAND SURVEYOR

DATE

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REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	11/21/22
1	ISSUED FOR CONSTRUCTION (FINAL)	11/22/22

PROJECT NAME:

BOYLSTON WT
STILES ROAD

STILES ROAD
BOYLSTON, MA 01505

DRAWING TITLE:

PLUMBING NOTES AND
SCHEMATIC

DRAWING NO:

P01

SCALE:	DESIGNED BY: GRS/NWC	SHEET NO.:
NOT TO SCALE	DRAWN BY: NWC	
	CHECKED BY: GRS	
CEA PROJECT NO.:	ORIGINAL ISSUE DATE:	11 OF 17
754.150	11/21/22	

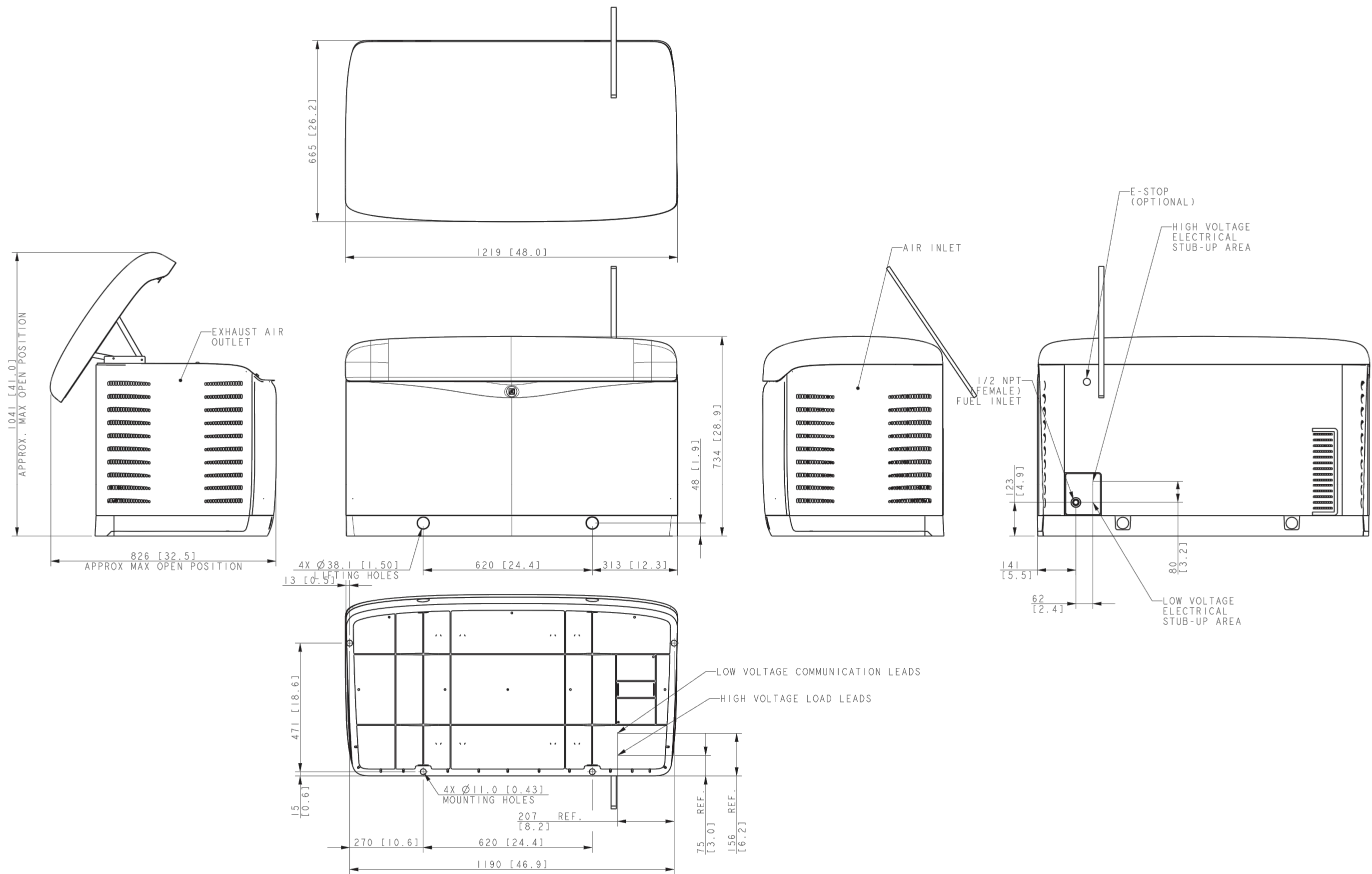
ELECTRICAL SPECIFICATIONS

1. FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND INCIDENTALS REQUIRED TO MAKE READY FOR USE THE COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS. MAKE ALL NECESSARY CONNECTIONS AT "PACKAGED" EQUIPMENT.
2. THE ELECTRICAL SYSTEMS SHALL BE SUITABLE IN EVERY WAY FOR THE SERVICE REQUIRED. ALL MATERIAL AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THE WORK SHALL BE FURNISHED AT NO EXTRA COST.
3. FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL, STATE AND NATIONAL CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO:
THE NATIONAL ELECTRICAL CODE (NFPA-70)
THE MASSACHUSETTS ELECTRIC CODE (527 CMR 12.00)
THE NATIONAL ELECTRICAL SAFETY CODE (ANSI C-2)
THE LIFE SAFETY CODE (NFPA 101)
4. MATERIALS AND EQUIPMENT SHALL BE NEW, UNUSED AND UNDERWRITERS' LABORATORIES, INC. LISTED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIALS IN A TIMELY FASHION, INCLUDING RESPONSIBILITY FOR DETERMINING AVAILABILITY/LEAD TIME FOR ALL NECESSARY EQUIPMENT.
5. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND PAY ALL FEES FOR PERMITS AND INSPECTIONS. WHERE NEW COMMERCIAL POWER SERVICE IS PROVIDED TO THE SITE, OR EXISTING SERVICE MUST BE MODIFIED, CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH THE ELECTRIC UTILITY, SHALL PERFORM ALL OF HIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY, AND SHALL PAY ALL UTILITY SERVICE BACK CHARGES.
6. ALL WIRING OUTSIDE SHALL BE INSTALLED IN HEAVY-GAUGE, (SCHEDULE 40) RIGID STEEL CONDUIT, HOT-DIPPED GALVANIZED INSIDE AND OUTSIDE WITH AN ADDITIONAL FACTORY-APPLIED FINISH INSIDE AND OUTSIDE. CUT ENDS SHALL BE REAMED, THREADED AND COLD GALVANIZED. NO COMPRESSION FITTING WILL BE ACCEPTED.
7. UNDERGROUND CONDUITS SHALL BE PVC SCHEDULE 40 AND INSTALLED NOT LESS THAN 30 INCHES BELOW FINISHED GRADE.
8. WIRING INSTALLED IN THE BUILDING THAT IS SHOWN TO BE IN CONDUIT SHALL BE INSTALLED IN EMT. EMT FITTINGS SHALL BE STEEL COMPRESSION TYPE.
9. LIQUID TIGHT, FLEXIBLE METAL CONDUIT SHALL BE USED FOR ALL MOTOR TERMINATIONS AND FOR CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION. FLEXIBLE METAL CONDUIT SHALL CONSIST OF A FLEXIBLE, CORROSION RESISTANT METAL CORE WITH AN EXTRUDED, WATERTIGHT, SYNTHETIC JACKET. CONDUITS SMALLER THAN 1-1/2" SHALL HAVE A CONTINUOUS GROUND CONDUCTOR UNDER THE JACKET.
10. NO CONDUIT SMALLER THAN 3/4" ELECTRICAL TRADE SIZE SHALL BE USED, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS. BOX SIZES SHALL BE 4" SQUARE MINIMUM, BUT NOT LESS THAN THAT REQUIRED BY THE MASSACHUSETTS ELECTRICAL CODE.
11. FITTINGS AND EXPOSED SWITCH, OUTLET AND CONTROL STATION BOXES AND OTHER EXPOSED BOXES 4" SQUARE SHALL BE CAST OR MALLEABLE IRON WITH CADMIUM-ZINC FINISH AND CAST COVERS WITH STAINLESS STEEL SCREWS.
12. FLUSH SWITCH AND OUTLET BOXES SHALL BE HOT-DIPPED GALVANIZED, PRESSED STEEL WITH NYLON COVER PLATES, COLOR AS DETERMINED BY THE ENGINEER.
13. EXCEPT AS OTHERWISE SHOWN, TERMINAL, JUNCTION AND PULL BOXES LARGER THAN 4" SQUARE SHALL BE SHEET STEEL. STEEL BOXES SHALL BE HOT-DIPPED GALVANIZED. BOXES AND COVERS SHALL BE NOT LESS THAN 14 GAUGE METAL. COVERS SHALL BE GASKETED AND FASTENED WITH STAINLESS STEEL HARDWARE.
14. FITTINGS USED WITH LIQUID TIGHT, FLEXIBLE CONDUIT SHALL BE OF THE SCREW-IN, COMPRESSION TYPE WITH SEALING RING. FITTINGS LARGER THAN 1-1/4" SHALL BE FURNISHED WITH INTEGRAL GROUND LUGS.
15. HANGERS, RODS, BACK PLATES, BEAM CLAMPS, ETC. SHALL BE GALVANIZED IRON OR STEEL. CONDUITS SHALL BE SUPPORTED AT LEAST EVERY 5 FEET.
16. EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO WALLS. CONDUIT RUNS SHALL BE STRAIGHT AND TRUE. CONDUIT SHALL BE SUPPORTED BY MEANS OF TWO-HOLE PIPE CLAMPS. BACK PLATES SHALL BE INSTALLED WHERE REQUIRED TO RAISE CONDUITS FROM THE SURFACE. MULTIPLE, HORIZONTAL RUNS SHALL BE SUPPORTED ON TRAPEZE HANGERS WITH STEEL HORIZONTAL MEMBERS AND THREADED RODS NOT LESS THAN 3/8 INCHES IN DIAMETER. HANGERS SHALL BE ATTACHED TO STRUCTURAL STEEL BY MEANS OF BEAM CLAMPS. SPOT TYPE INSERTS SHALL BE USED IN CONCRETE.
17. CONDUIT BENDS SHALL BE CAREFULLY MADE TO PREVENT DISTORTION OF THE CIRCULAR CROSS-SECTION. NO CONDUIT RUN SHALL HAVE MORE THAN THE EQUIVALENT OF THREE 90 DEGREE BENDS BETWEEN PULLING POINTS. CHANGES IN DIRECTION SHALL BE MADE WITH BENDS, STANDARD ELBOWS AND PULLBOXES. BENDS IN PARALLEL RUNS SHALL BE CONCENTRIC.
18. CONDUIT SHALL NOT BE SUPPORTED FROM PIPING, PIPING SUPPORTS, DUCTWORK, SUSPENDED CEILING SUPPORTS OR MECHANICAL EQUIPMENT SUBJECT TO VIBRATION OR REMOVAL.
19. THE ENDS OF ALL CONDUITS SHALL BE TIGHTLY PLUGGED DURING BUILDING CONSTRUCTION UNTIL WIRES ARE TO BE PULLED. SPARE CONDUITS SHALL BE FURNISHED WITH THREADED CAPS.
20. CONDUITS SHALL BE TERMINATED AT UNGASKETED SHEET STEEL BOXES AND ENCLOSURES WITH DOUBLE LOCK NUTS AND SUITABLE BUSHINGS. BUSHINGS INSTALLED ON CONDUITS CONTAINING GROUND WIRES SHALL BE GROUNDING TYPE. CONDUITS SHALL BE TERMINATED AT GASKETED SHEET METAL BOXES AND ENCLOSURES WITH CONDUIT HUBS.
21. ELECTRIC SUB-METERS SHALL BE EMON DMON KW DEMAND REGISTER.
22. CONDUCTORS SHALL BE ANNEALED, 98 PERCENT CONDUCTIVITY, SOFT-DRAWN COPPER. NO CONDUCTOR SMALLER THAN NO. 12 AWG SHALL BE USED, EXCEPT AS OTHERWISE NOTED.
23. WIRE FOR POWER AND LIGHTING BRANCH CIRCUITS SHALL BE 600 VOLT, TYPE THWN. WIRE FOR CONTROL CIRCUITS SHALL BE 600 VOLT, TYPE THWN, NO. 14 AWG. STRANDED. SERVICE CONDUCTORS AND FEEDERS SHALL BE TYPE XHHW. CONDUCTORS NO. 10 AWG AND SMALLER SHALL BE SOLID. NO. 8 AWG AND LARGER SHALL BE STRANDED.
24. ALL CONDUCTORS SHALL BE CAREFULLY HANDLED TO AVOID KINKS OR DAMAGE TO INSULATION. LUBRICATIONS SHALL BE USED TO FACILITATE WIRE PULLING. LUBRICANTS SHALL BE UL LISTED FOR USE WITH THE INSULATION SPECIFIED.
25. ALL EQUIPMENT AND MATERIALS SHALL BE GROUNDED IN STRICT ACCORDANCE WITH ARTICLE 250 OF THE MASSACHUSETTS ELECTRICAL CODE, AND THE REQUIREMENTS OF MANUFACTURER.
26. DISCONNECT SWITCHES SHALL BE 480 OR 240 VOLT, HEAVY-DUTY, QUICK-MAKE, QUICK BREAK, VISIBLE BLADE, 2 POLE WITH EXTERNAL OPERATING HANDLE AND FULL COVER INTERLOCK. SWITCHES INSTALLED OUTSIDE SHALL BE NEMA TYPE 3R ENCLOSED.
27. WALL SWITCHES SHALL BE SINGLE POLE 3-WAY OR 4-WAY, INDICATING, TOGGLE-ACTION, FLUSH, QUIET TYPE, SPECIFICATION GRADE, RATED 20 AMPERE, 120-277 VOLT. COLOR AS DETERMINED BY ENGINEER.
28. GENERAL PURPOSE RECEPTACLES SHALL BE DUPLEX, 2 POLE, 3 WIRE, STRAIGHT BLADE, NYLON FACE, GROUNDING TYPE, 20 AMPERE, 125 VOLT, SPECIFICATION GRADE. COLOR AS DETERMINED BY ENGINEER.
29. PANELS SHALL BE PART OF GENERAC INTEGRATED LOAD CENTER (TYPED DIRECTORIES).
30. CIRCUIT BREAKERS SHALL BE MOLDED CASE, THERMAL-MAGNETIC TYPE WITH RMS SYMMETRICAL INTERRUPTING RATING OF NOT LESS THAN 22,000 AMPERE FOR 240 VOLT BREAKERS. ENCLOSED BREAKERS SHALL HAVE PADLOCKING PROVISIONS AND EXTERNAL OPERATING HANDLE WITH FULL COVER INTERLOCK. BREAKERS SHALL BE 1" MODULES MINIMUM.
31. NAMEPLATES SHALL BE PROVIDED FOR ALL EQUIPMENT INDICATING VOLTAGE, PHASE, USE AND SOURCE OF ORIGIN. DEVICES SHALL BE LABELED INDICATING VOLTAGE AND BRANCH CIRCUIT. BRANCH CONDUCTORS SHALL BE LABELED INDICATING BRANCH CIRCUIT. FEEDER CONDUCTORS SHALL INDICATE PHASE.
32. ALL EXTERIOR CONDUCTOR/LUG TERMINALS SHALL HAVE AN ANTIOXIDANT APPLIED.
33. ALL SPRING TYPE WIRE CONDUCTORS USED IN EXTERIOR BOXES SHALL BE SILICON FILLED.

34. ELECTRICAL CONTRACTOR SHALL AS PART OF HIS WORK INCLUDE ALL FITTINGS, SLEEVES AND MINOR CUTTING REQUIRED FOR HIS WORK, INCLUDING FIRES-STOPPING.
35. THE ELECTRICAL CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE HIS OWN, WHERE DIRECTED, STORAGE AND OFFICE SPACE.
36. FIVE COPIES OF SHOP DRAWINGS OF ALL EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.
37. ELECTRICAL CONTRACTOR'S WORK SHALL INCLUDE ALL LABOR AND MATERIALS, SCAFFOLDING TOOL AND TRANSPORTATION NECESSARY FOR COMPLETE INSTALLATION.
38. ELECTRICAL CONTRACTOR TO FURNISH ENGINEER ONE SET OF MYLARS OF "AS BUILT" DRAWINGS.
39. ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY POWER & LIGHTING AS REQ'D.
40. PROPOSED ELECTRICAL RUN FROM PROPOSED GENERATOR TO TAP INTO EXISTING APPLETON PLUG RUN. EXISTING APPLETON PLUG TO BE REPLACED WITH A SMALL JUNCTION/PULL BOX.

GROUNDING GENERAL NOTES

1. ALL EXTERIOR CONDUCTORS SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNLESS OTHERWISE NOTED. MINIMUM BEND RADIUS SHALL BE EIGHT (8) INCHES.
2. ALL CONNECTIONS TO HALO GROUND RING AND ALL CABLE TRAY JUMPERS SHALL BE #6 AWG, INSULATED, STRANDED, COPPER WIRE.
3. ALL WIRE-TO-WIRE CONNECTIONS SHALL BE THREE-CLAMP, C TAP COMPRESSION (T&B #54740 ORANGE OR EQUIVALENT). ALL GROUND BAR CONNECTIONS SHALL BE TWO-HOLE, LONG-BARREL TYPE COMPRESSION LUGS (T&B OR EQUIVALENT). ALL OTHER CONNECTIONS TO STEEL SURFACES SHALL USE LUG-TYPE CONNECTORS.
4. MECHANICALLY BOND ANTENNA MOUNTS WITH #2 AWG, BARE, STRANDED CONDUCTORS.
5. ALL GROUNDING WORK SHALL COMPLY WITH LOCAL STANDARDS.
6. CONNECT GROUND CONDUCTOR TO EXISTING GROUNDING SYSTEM. ATTACH TO WALLS, PARAPET, CABLE TRAY, ETC. WITH A CLAMPS AS NECESSARY. REMOVE PAINT, FIREPROOFING, MILL SCALE, ETC. TO ACHIEVE GOOD CAD WELD GROUND CONNECTION.
7. CONNECT TO HALO GROUND USING C-TAP (#54730).
8. CONNECT TO ENCLOSURES USING BLUE GROUND LUGS.



KOHLER 14kW LIQUID PROPANE GENERATOR (PART #14RCA(L))
OVERALL GENERATOR (ENCLOSURE) APPROXIMATE
DIMENSIONS: 47.0"L x 26.2"W x 32.2"H
APPROXIMATE MAX. IN-SERVICE WEIGHT: 500 lbs

GENERATOR DETAIL

SCALE: NONE

GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE TO MAKE HIMSELF AWARE OF THE EXISTING CONDITIONS.
2. BRANCH CIRCUIT RUNS 100 FT AND OVER SHALL BE #10 AWG CONDUCTORS.
3. THESE DRAWINGS ARE DIAGMMATIC ONLY. THE EXACT LOCATION, MOUNTING HEIGHT, SIZE OF EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED AND DETERMINED IN THE FIELD.
4. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE HVAC AND PLUMBING CONTRACTORS AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT, THE POWER WIRING, THE CONTROL WIRING AND ALL ELECOTICAL CONNECTIONS REQUIRED BY THIS CONTRACTOR FOR COMPLETELY OPERATIVE HVAC AND PLUMBING SYSTEMS IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
5. INTERRUPTIONS TO THE EXISTING ELECTRICAL SERVICE FOR SPLICING CONNECTIONS, RENOVATION OF EXISTING DISTRIBUTION, BRANCH CIRCUITS, INSTALLATION OF NEW ELECTRIC SERVICE, AND SHALL BE AS SHORT AS POSSIBLE, AND TO THE CONVENIENCE OF THE OWNER.
6. ALL CONDUIT SHALL BE SURFACE MOUNTED UNLESS OTHERWISE NOTED. NO INTERIOR HORIZONTAL CONDUIT BELOW 7"-8" AFF IN FINISHED SPACES.
7. ALL WIRING TO BE 3/4", 2#12 & 1#12 GROUND, UNLESS OTHERWISE NOTED.
8. NO BX OR ROMEX CABLE IS PERMITTED.
9. ALL WIRING DEVICES AND EQUIPMENT SHALL BE 20A SPECIFICATION GRADE AND UL LISTED.
10. ALL OUTLET AND JUNCTION BOXES SHALL BE SECURELY SURFACE MOUNTED.
11. ALL RECEPTACLE AND EQUIPMENT CIRCUITS SHALL BE GROUNDED USING A FULL SIZE EQUIPMENT GROUNDING CONDUCTOR RUN WITH THE CURRENT CONDUCTORS.
12. ALL WALL PENETRATIONS FOR TELCO, POWER, AND GROUNDING SHALL REQUIRE PVC SLEEVES.
13. ALL SWITCHES SHALL BE FORTY-EIGHT (48) INCHES AFF, UNLESS OTHERWISE NOTED.
14. ALL RECEPTACLES SHALL BE EIGHTEEN (18) INCHES AFF, UNLESS OTEHRWISE NOTED.
15. ALL WIRING SHALL BE IN METAL RACEWAY & NO. 12 AWG COPPER MIN. UNLESS OTHERWISE NOTED.
16. WIRE COLOR SHALL BE PER STANDARD CODING BY PHASE.

LEGEND

ELECTRICAL SYMBOLS

- (M) METER
- ⊗ GROUND ROD/TEST (OBSERVATION) WELL
- ⊗ GROUND ROD
- ▲ CADWELD TYPE CONNECTION
- COMPRESSION TYPE CONNECTION
- GROUNDING WIRE
- 1
E02 REPRESENTS DETAIL NUMBER
- 1'X4' SURFACE MTD. FLOURESCENT LIGHTING FIXTURE
- SELF CONTAINED EMERG. LIGHTING UNIT
- S 20A-120V-1P TOGGLE SWITCH
- Ⓜ MAGNETIC DOOR SWITCH (DOOR JAMB TYPE)
- Ⓢ 20A-120V QUADRAPLEX RECEPTACLE, GROUNDING TYPE, 2-CKT. NO.
- Ⓢ/GFI 20A-120V DUPLEX RECEPTACLE, GROUNDING TYPE.
WP = WEATHERPROOF
GFI = GROUND FAULT
- Ⓢ TL SIMPLEX RECEPTACLE, GROUNDING TYPE.
TL = TWIST LOCK
- Ⓢ JUNCTION BOX
- P1 PANELBOARD 'P1'
- * Ⓢ MOTOR - NUMERAL DENOTES HORSEPOWER
- Ⓢ/WP WEATHER PROOF DISCONNECT SWITCH
- Ⓢ FUSED DISCONNECT SWITCH - '3R' & '1' - NEMA ENCLOSURE
- * Ⓢ THERMOSTAT * Ⓢ - HI TEMPERATURE ALARM THERMOSTAT
- * Ⓢ HUMIDISTAT * Ⓢ - HI/LO HUMIDITY ALARM HUMIDISTAT
- Ⓢ COMBINATION SMOKE/HEAT DETECTOR WITH MINI HORN
SIMPLEX CAT.#2098-9696 WITH FORM A & C CONTACTS
- P1-2 HOMERUN TO PANEL
(FURNISH & INSTALLED BY MECHANICAL)
- Ⓢ SURGE ARRESTOR - JOSLYN CAT. NO. 1455-85
- AFF ABOVE FINISHED FLOOR
- * Ⓢ MOTORIZED DAMPER
- 2#12-3/4" EXPOSED CONDUIT 2#12-3/4"C.
- TC ALARM TERMINAL CABINET
- *EQUIPMENT FURNISHED AND INSTALLED BY OTHERS AND WIRED BY THIS CONTRACTOR

ABBREVIATIONS

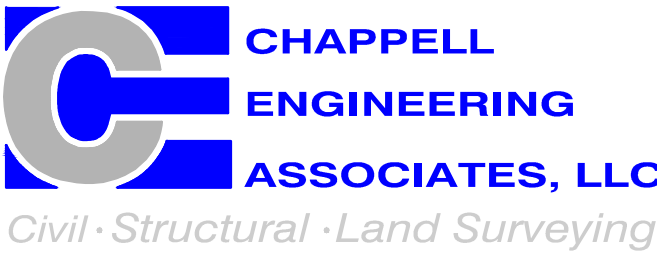
- AWG AMERICAN WIRE GAUGE
- BCW BARE COPPER WIRE
- GPS GLOBAL POSITIONING SYSTEM
- PCS PERSONAL COMMUNICATION SYSTEM
- RWY RACEWAY
- TYP. TYPICAL
- RGS RIGID GALVANIZED STEEL
- EMT ELECTRICAL METALLIC TUBING
- DWG DRAWING
- EMT INTERIOR GROUND RING (HALO)
- GEN GENERATOR
- GR GROWTH
- CGBE COAX GROUND BAR EXTERNAL
- CIGBE COAX ISOLATED GROUND BAR EXTERNAL
- MGB MASTER GROUND BAR
- PVC RIGID (SCH. 40) POLYVINYL CHLORIDE CONDUIT
- EBH ETHERNET BACK HAUL

CLIENT:



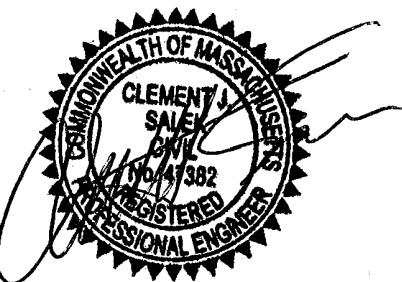
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SEAL:



ENGINEER/LAND SURVEYOR DATE

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REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	11/21/22
1	ISSUED FOR CONSTRUCTION (FINAL)	11/22/22

PROJECT NAME:

BOYLSTON WT
STILES ROAD

STILES ROAD
BOYLSTON, MA 01505

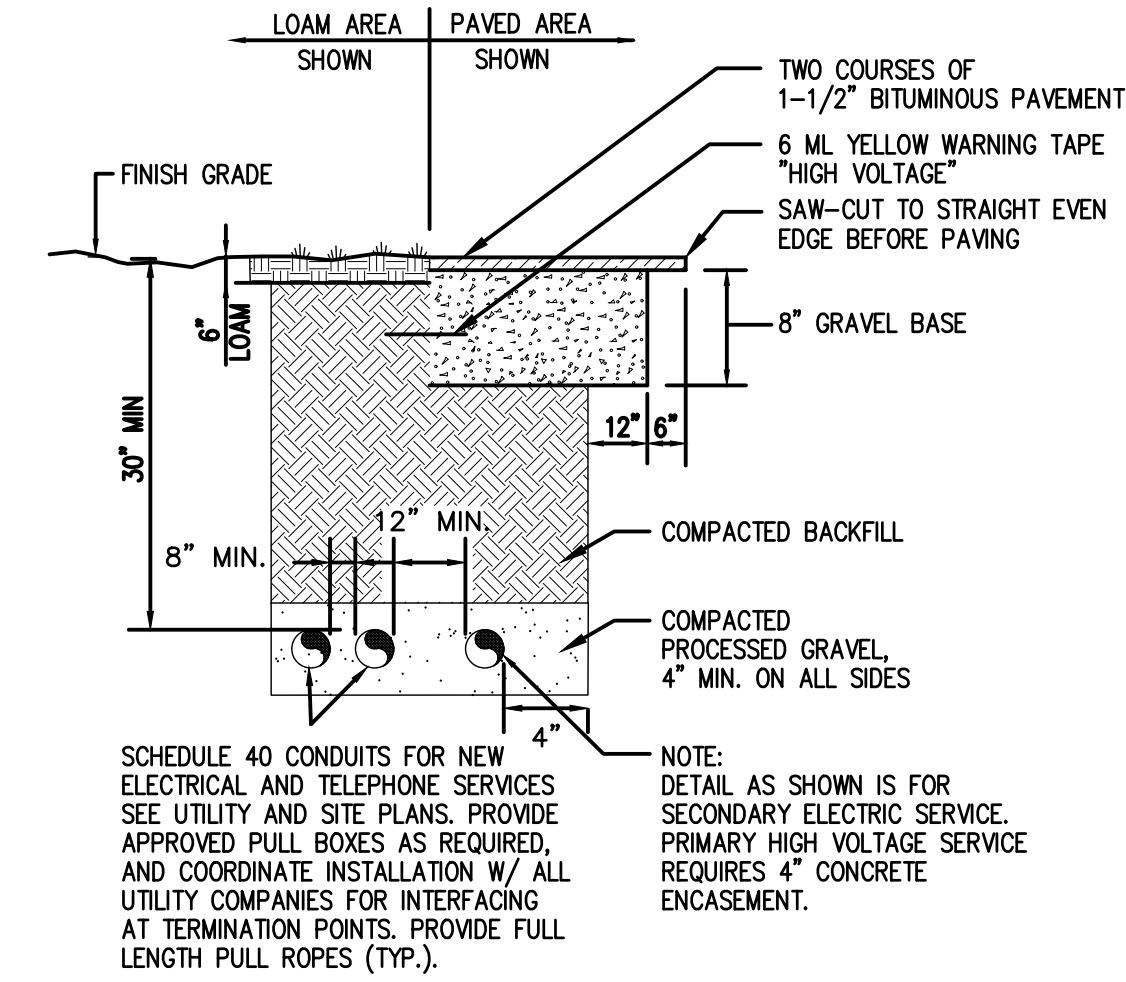
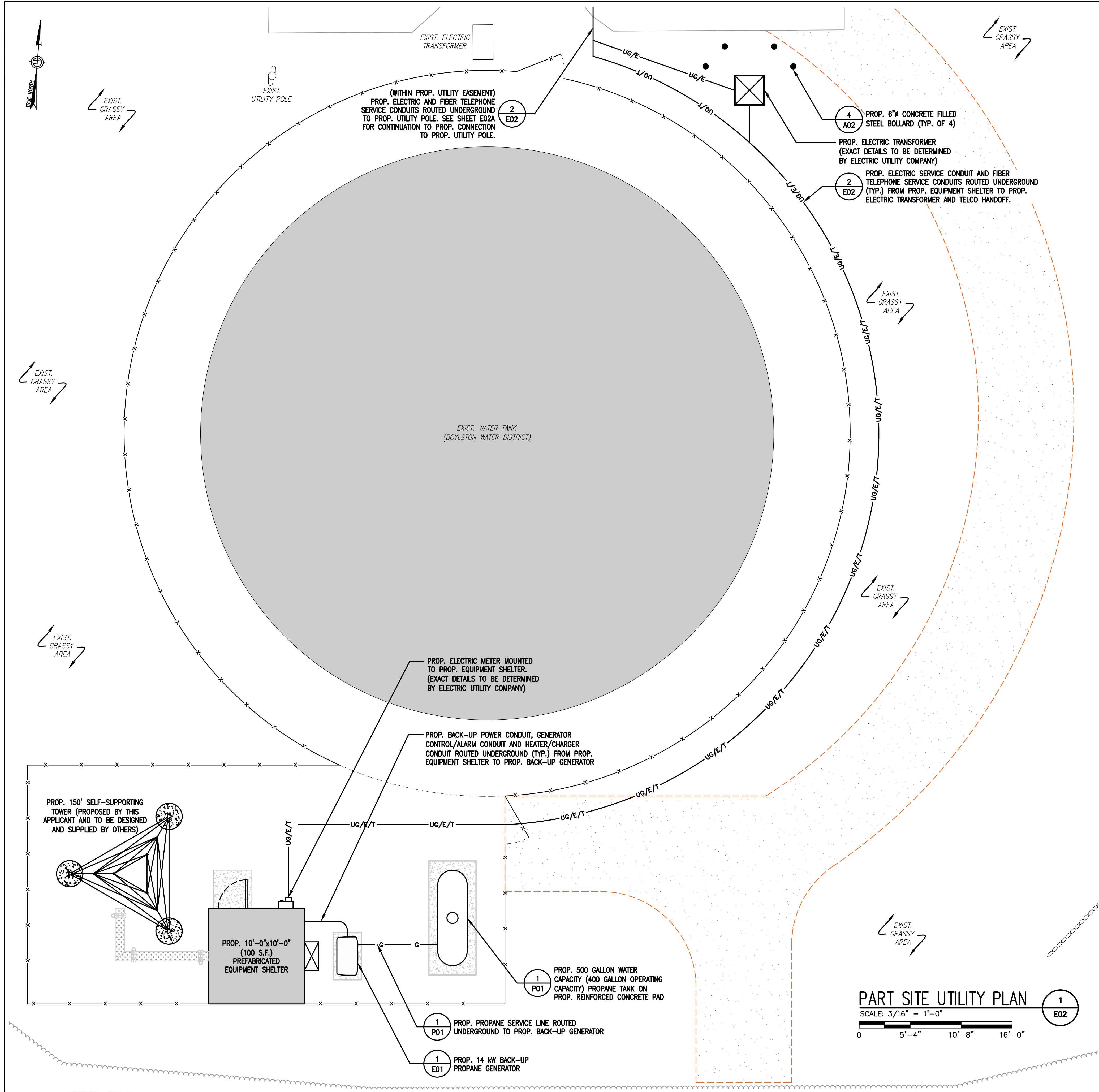
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ELECTRICAL
SPECIFICATIONS
AND NOTES

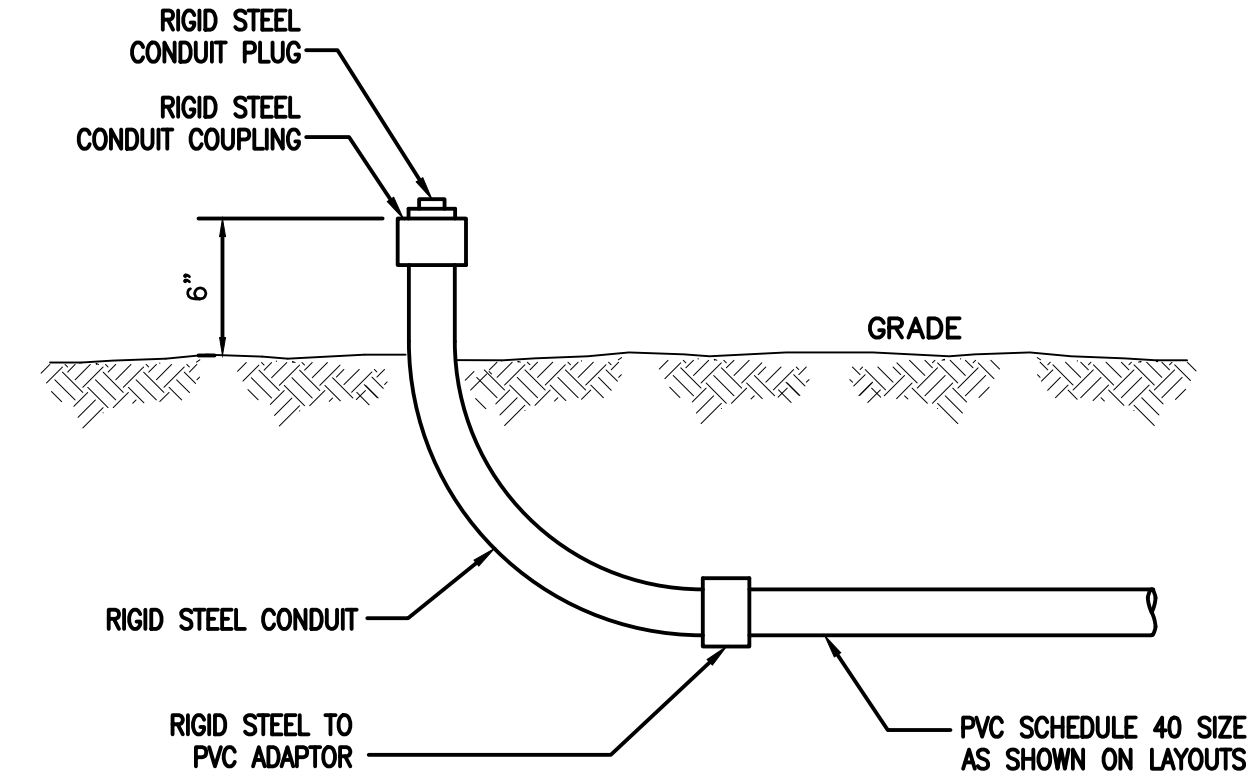
DRAWING NO:

E01

SCALE: AS SHOWN	DESIGNED BY: GRS/NWC DRAWN BY: NWC CHECKED BY: GRS	SHEET NO.: 12 OF 17
CEA PROJECT NO.: 754.150	ORIGINAL ISSUE DATE: 11/21/22	



TYPICAL BURIED CONDUIT DETAIL 2 E02
SCALE: NONE

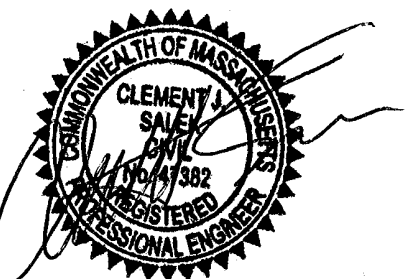


TYPICAL CONDUIT STUB-UP DETAIL 3 E02
SCALE: NONE

NOTES:
1.) SEE ONE LINE DIAGRAMS ON SHEET E03 FOR FURTHER CONDUIT DETAILS

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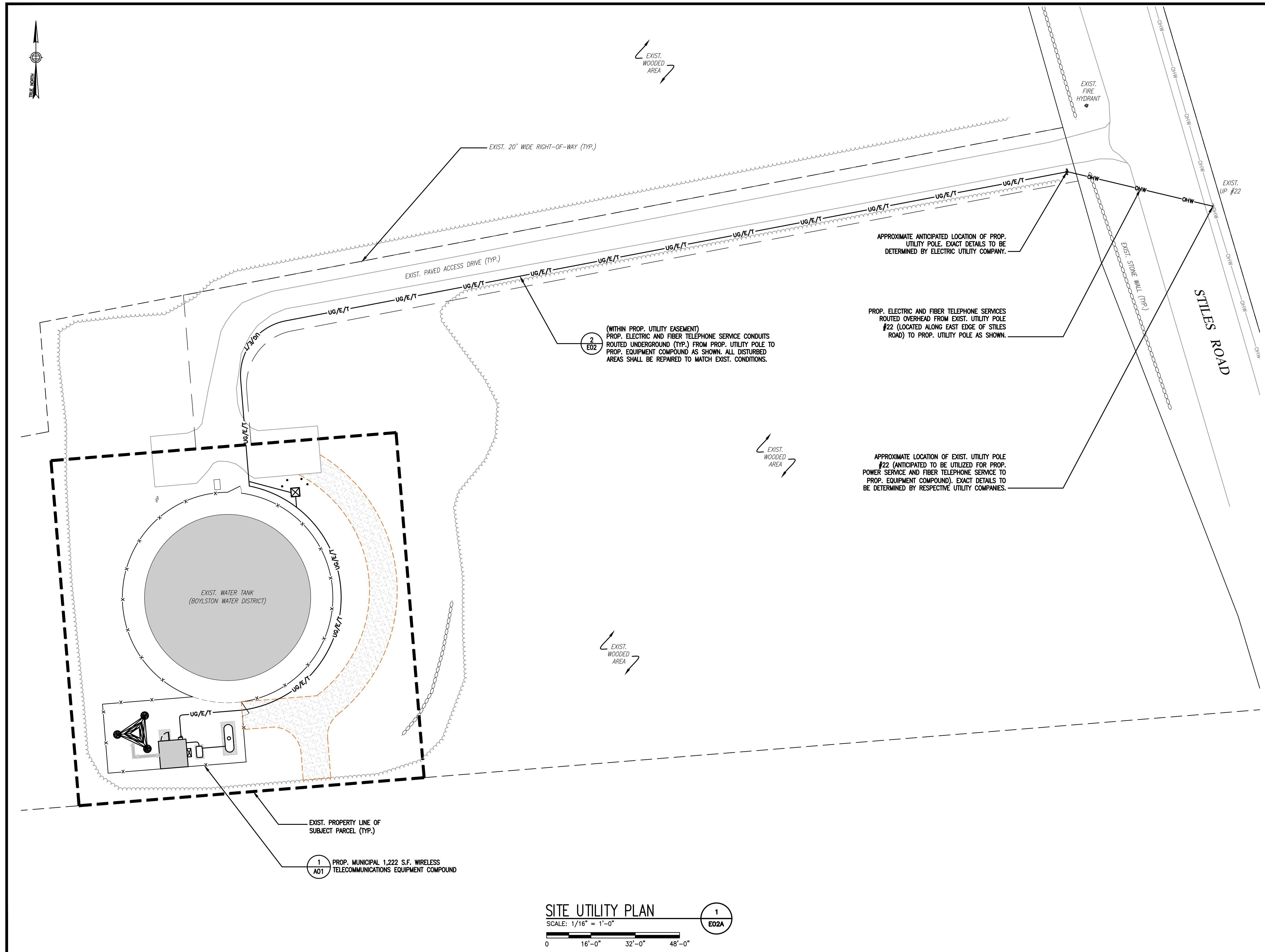
REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	11/21/22
1	ISSUED FOR CONSTRUCTION (FINAL)	11/22/22

PROJECT NAME:
**BOYLSTON WT
STILES ROAD**
STILES ROAD
BOYLSTON, MA 01505

DRAWING TITLE:
**PART SITE UTILITY PLAN
& DETAILS**

DRAWING NO:
E02

SCALE:	DESIGNED BY: GRS/NWC	SHEET NO.:
AS SHOWN	DRAWN BY: NWC	13 OF 17
CEA PROJECT NO.: 754.150	CHECKED BY: GRS	
	ORIGINAL ISSUE DATE: 11/21/22	

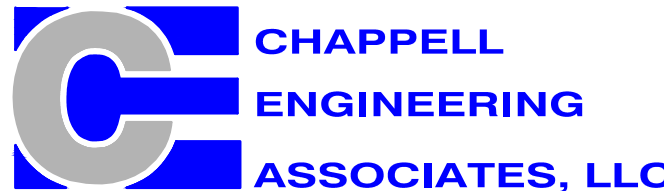


CLIENT:



702 RIVERWOOD DRIVE
PEMBROKE, NH 03275

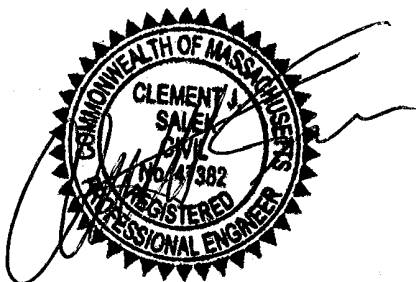
ARCHITECT/ENGINEER:



Civil · Structural · Land Surveying

R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST
SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

SEAL:



ENGINEER/LAND SURVEYOR DATE

DRAWING SCALE NOTE

THESE DRAWINGS HAVE BEEN PREPARED IN ARCH D (24"x36") FORMAT
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CONTRADICTORY SIZE SHALL BE RENDERED INVALID.
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TO ALTER THIS DOCUMENT.

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PROJECT NAME:

BOYLSTON WT
STILES ROAD

STILES ROAD
BOYLSTON, MA 01505

DRAWING TITLE

SITE UTILITY PLAN

DRAWING NO:

E02A

SCALE:

$$X_{16}'' = 1'-0$$

EA PROJECT NO.

754.150

DESIGNED BY: GRS/NWC

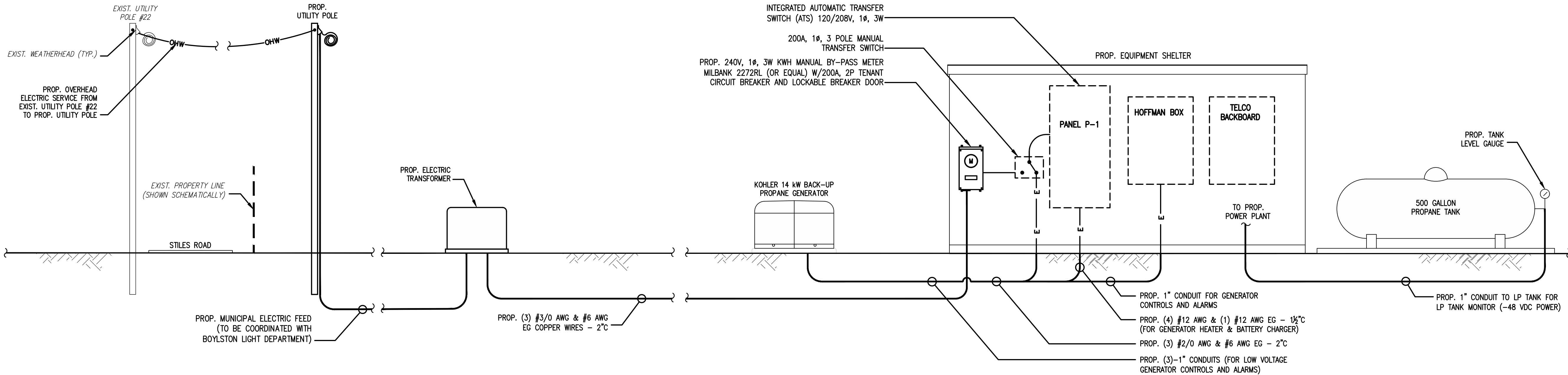
DRAWN BY: NWA
01/501458 BM

ORIGINAL ISSUE

11/21/

HEET NO.:

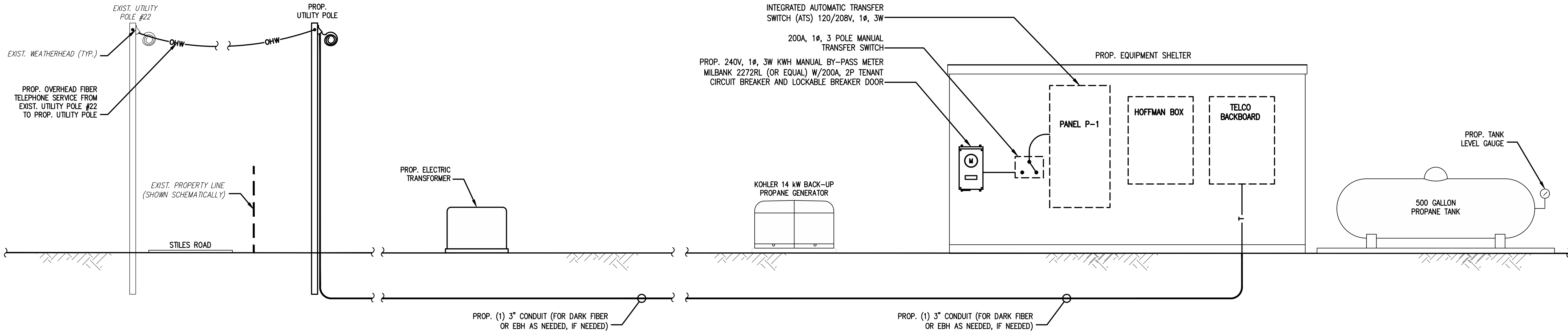
14 OF 17



ELECTRICAL ONE LINE DIAGRAM

SCALE: NOT TO SCALE

1E
E03



TELCO/FIBER ONE LINE DIAGRAM

SCALE: NOT TO SCALE

1T
E03

- ONE-LINE DIAGRAM NOTES:
- 1) PROVIDE WEATHER TIGHT SEAL CONNECTORS ON ALL CONNECTIONS INSIDE AND OUT.
 - 2) COORDINATE ANY FURTHER MISCELLANEOUS WIRING AND CONDUIT REQUIREMENTS WITH TOWN OF BOYLSTON AND ELECTRIC COMPANY.
 - 3) ALL CONDUIT ROUTING SHOWN ON THESE DIAGRAMS IS SCHEMATIC IN NATURE AND INTENDED TO CONVEY GENERAL INTENT ONLY.
 - 4) ALL PROPOSED UTILITY DESIGN ELEMENTS SHOWN ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN TO BE PROVIDED BY UTILITY PROVIDERS AND TOWN OF BOYLSTON. CONTRACTOR SHALL OBTAIN A COPY OF THE FINAL UTILITY DESIGN BY UTILITY COMPANY PRIOR TO COMMENCEMENT OF WORK.

UTILITY CONTACTS	
ELECTRICAL:	BOYLSTON LIGHT DEPARTMENT P.O. BOX 753 BOYLSTON, MA 01505 (508) 869-2626
TELEPHONE:	VERIZON 185 FRANKLIN STREET BOSTON, MA 02107 (800) 941-9900

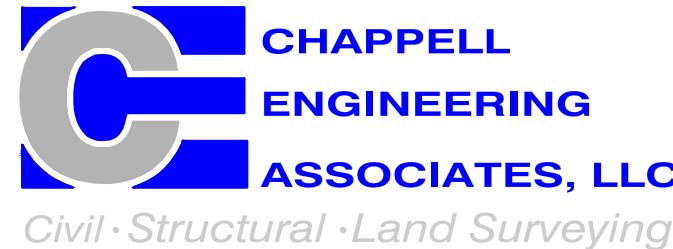
MAKE ALL CONNECTIONS AS PER UTILITY COMPANY'S REQUIREMENTS.

CLIENT:



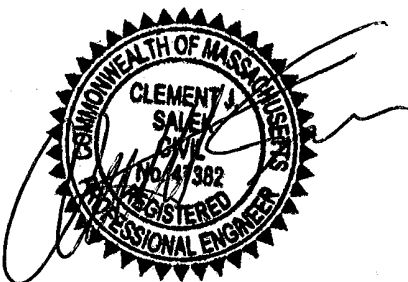
702 RIVERWOOD DRIVE
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ENGINEER/LAND SURVEYOR

DATE

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PROJECT NAME:

BOYLSTON WT
STILES ROAD

STILES ROAD
BOYLSTON, MA 01505

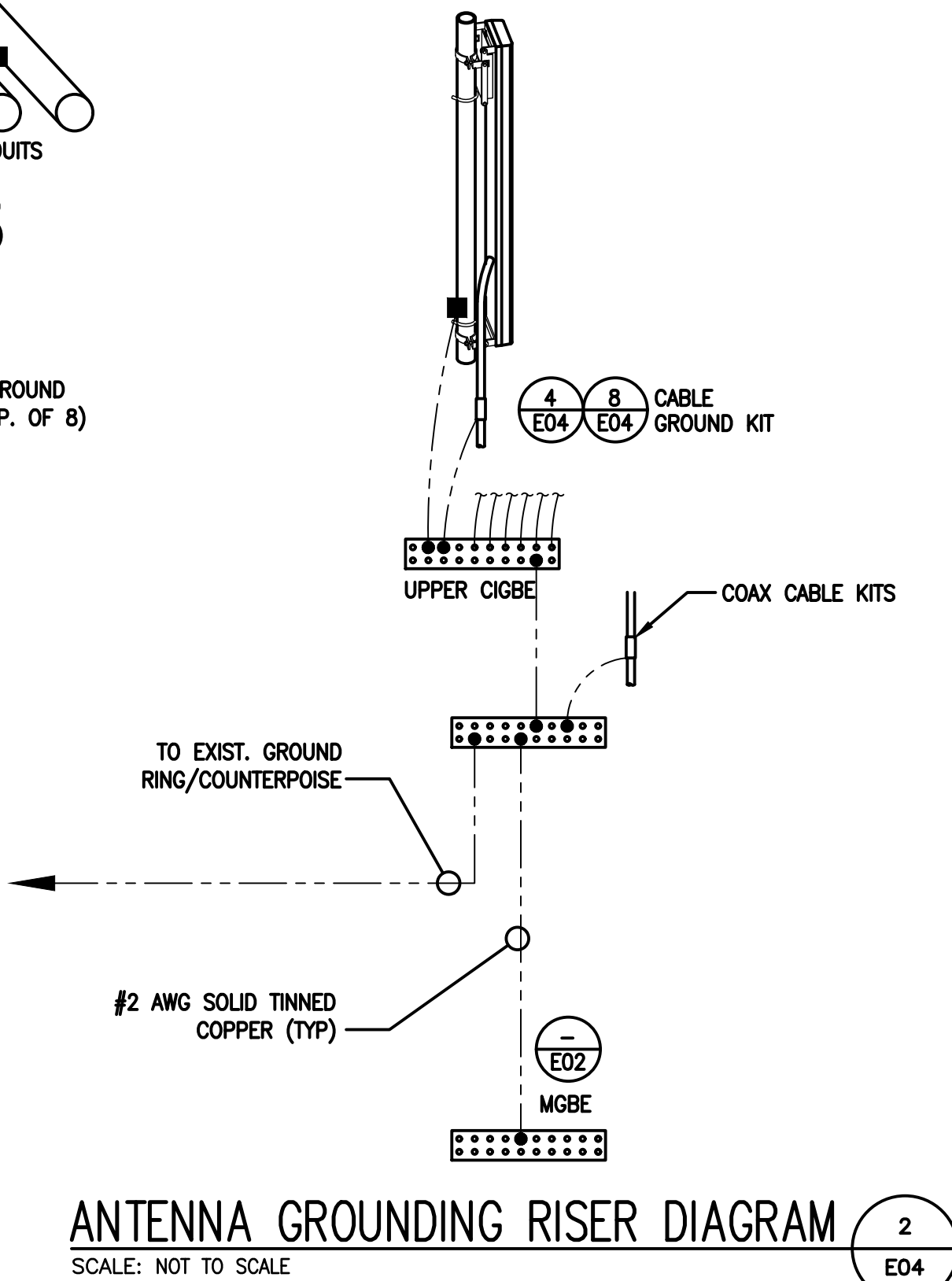
DRAWING TITLE:

ELECTRICAL DIAGRAMS
& DETAILS

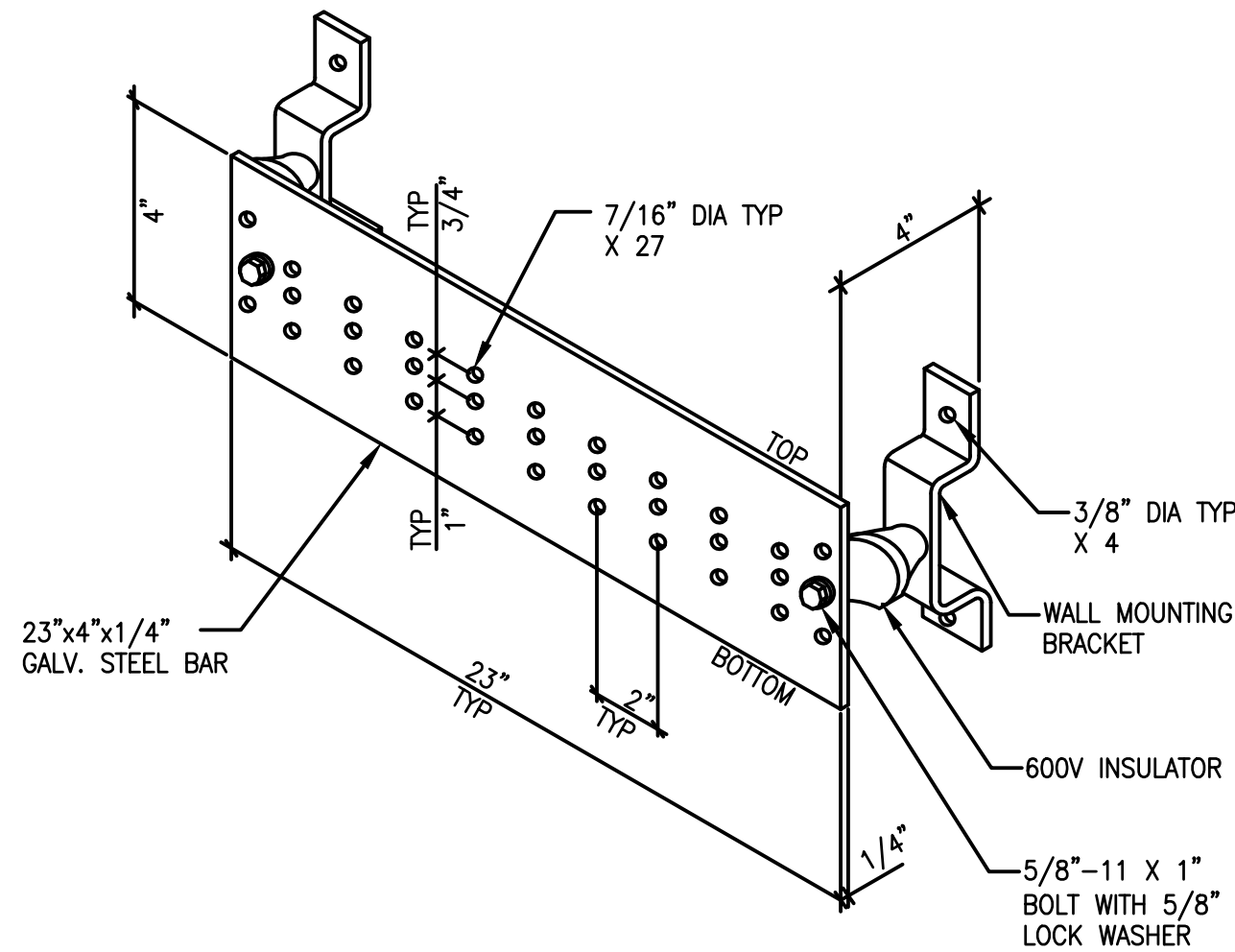
DRAWING NO:

E03

SCALE:	DESIGNED BY: GRS/NWC	SHEET NO.: 15 OF 17
AS SHOWN	DRAWN BY: NWC	
CEA PROJECT NO.: 754.150	CHECKED BY: GRS ORIGINAL ISSUE DATE: 11/21/22	

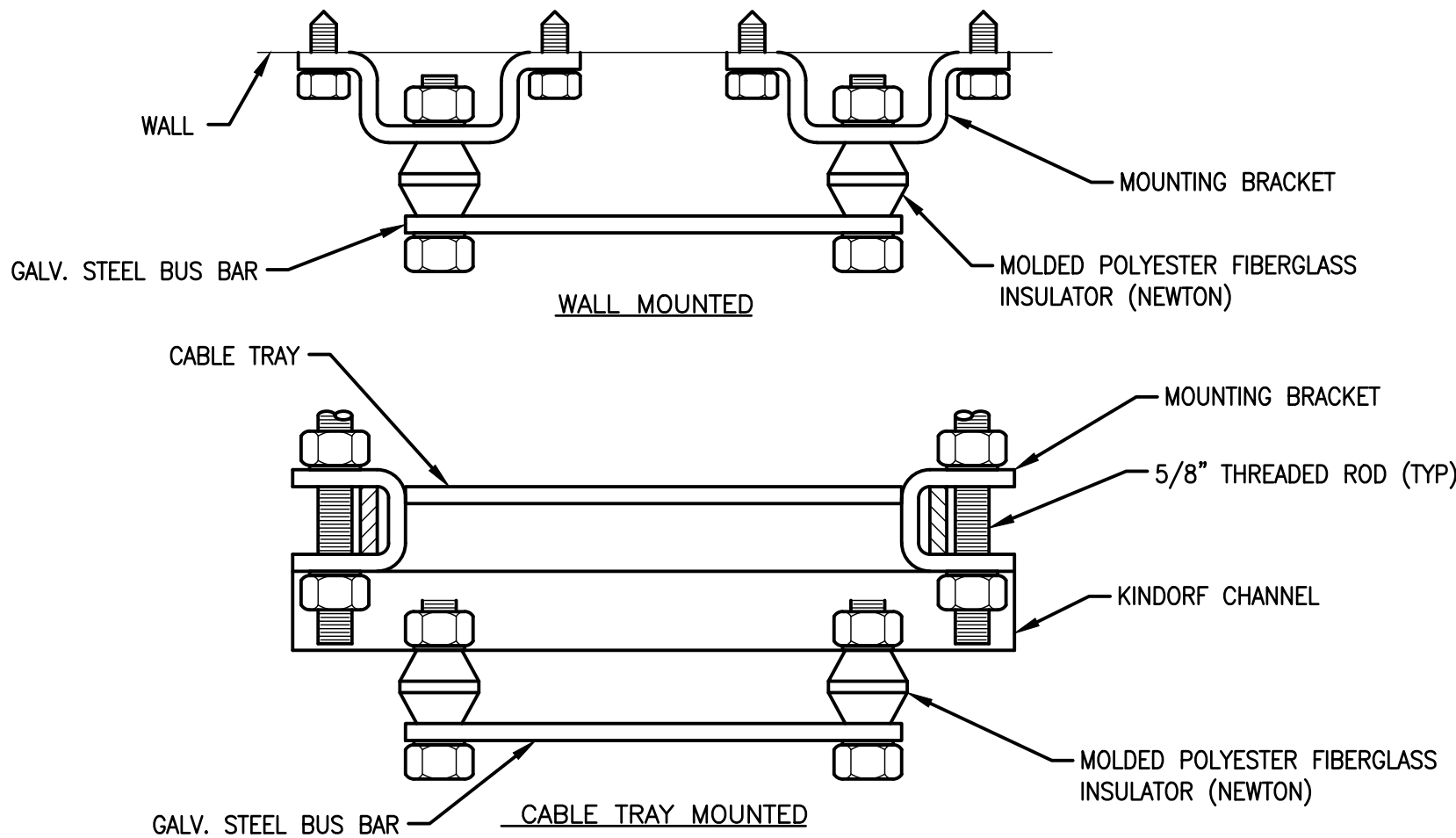


SCALE:	DESIGNED BY: GRS/NWC	SHEET NO.: 16 OF 17
AS SHOWN	DRAWN BY: NWC	
	CHECKED BY: GRS	
CEA PROJECT NO.: 754.150	ORIGINAL ISSUE DATE: 11/21/22	

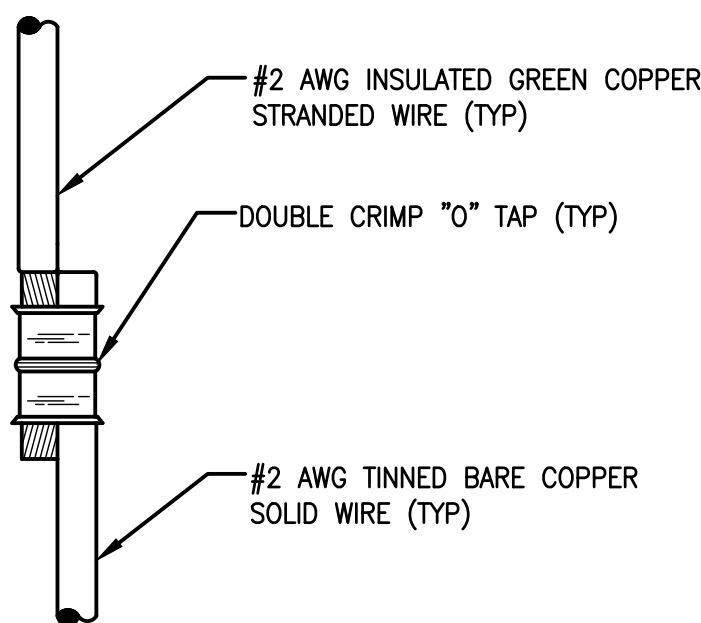


1. SURFACE PREPARATION: ALL CONNECTIONS MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE MADE BARE TO ENSURE PROPER CONTACT. NO WASHERS SHALL BE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS SHALL HAVE AN ANTI-OXIDANT AGENT APPLIED PRIOR TO INSTALLATION.
2. BUSS PREPARATION: ALL GALV. STEEL BUSSES SHALL BE CLEANED, POLISHED AND AN ANTI-OXIDANT APPLIED. NO FINGERPRINTS OR DISCOLORED STEEL WILL BE PERMITTED.
3. TERMINATIONS: ALL EQUIPMENT TERMINATIONS SHALL BE MADE WITH A BURNDY TWO HOLE COMPRESSION LUG WITH 10-24x3/4" LONG S.S. SCREWS, NUTS AND LOCK WASHERS. ALL BUSS TERMINATIONS SHALL BE MADE WITH A CAD-WELD OR BURNDY YC2C2 2 HOLE COMPRESSION LUG OR EQUAL. ALL INTERIOR HALO ATTACHMENTS SHALL BE MADE USING A BURNDY YC2C2 COMPRESSION LUG.

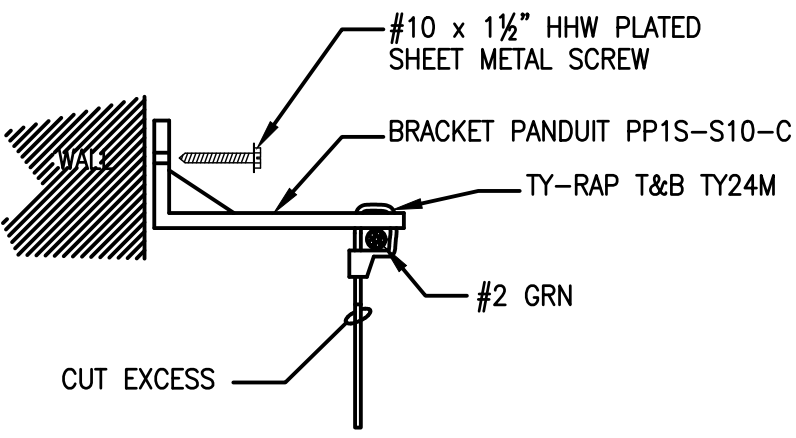
TYP. INTERIOR & EXTERIOR GROUND BAR
SCALE: N.T.S.



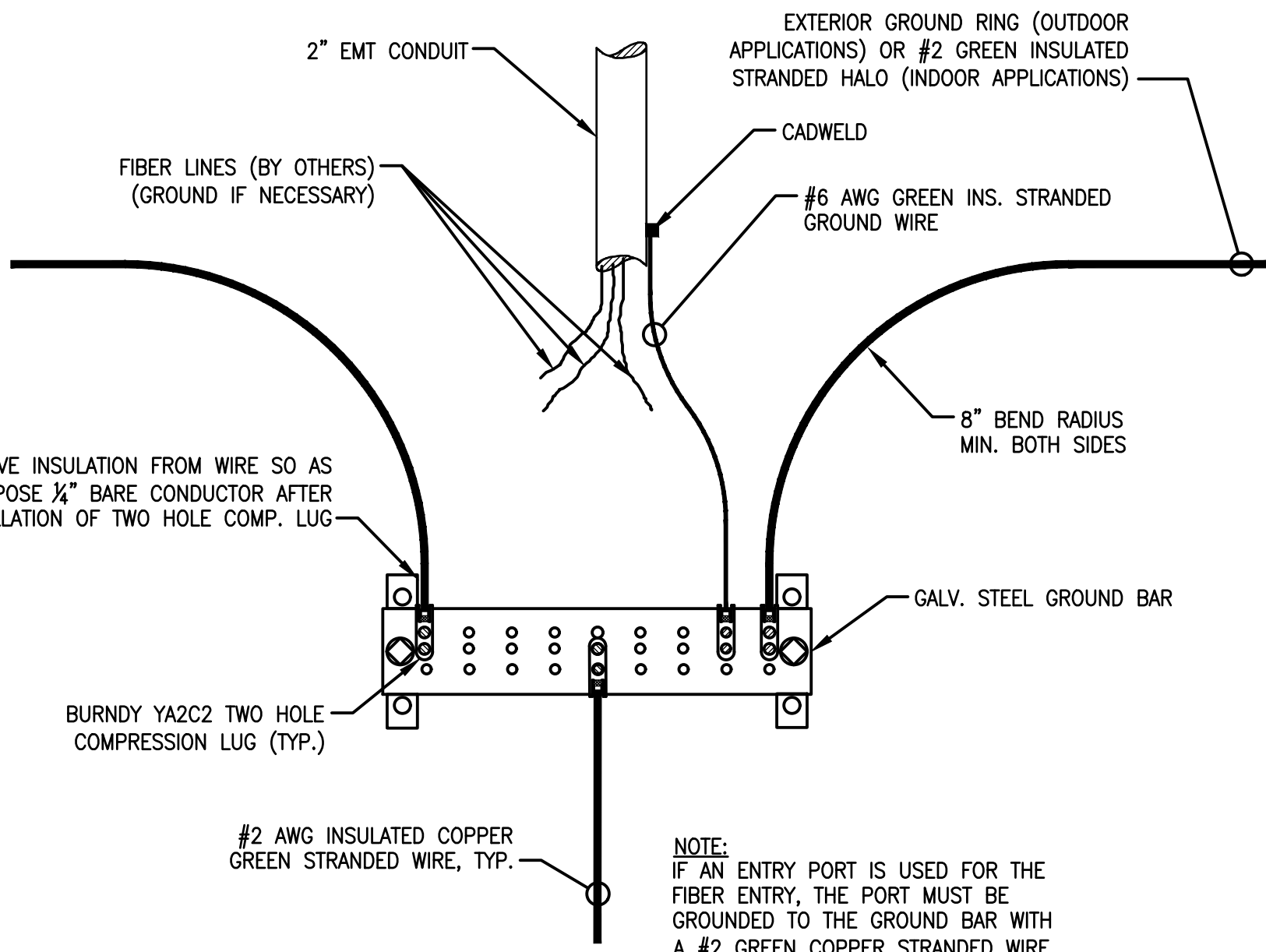
BUS BAR MOUNTING
SCALE: N.T.S.



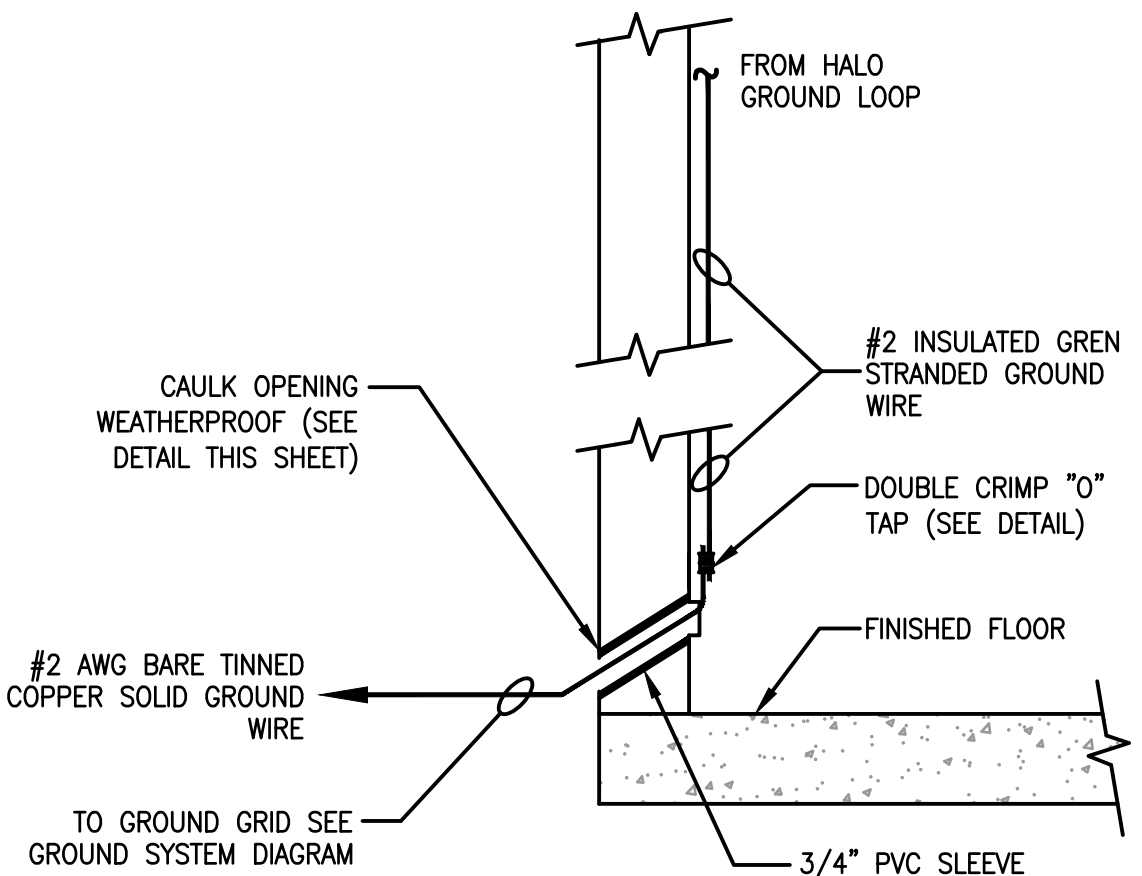
TYPICAL GROUND CONNECTION SPLICE DETAIL
SCALE: N.T.S.



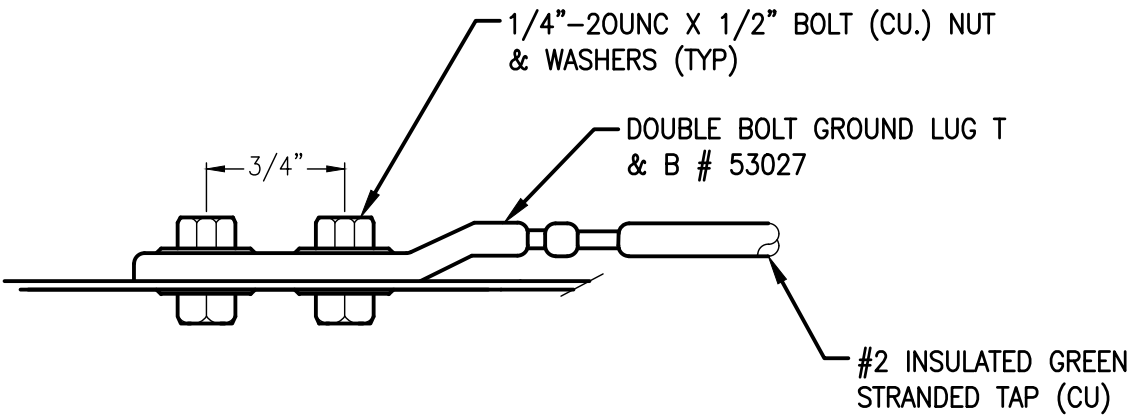
HALO GROUND INSTALLATION
SCALE: N.T.S.



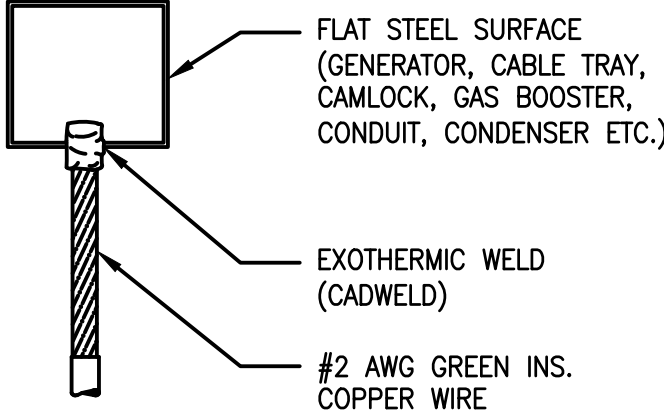
INTERIOR GROUNDING AT TELCO ENTRY
SCALE: N.T.S.



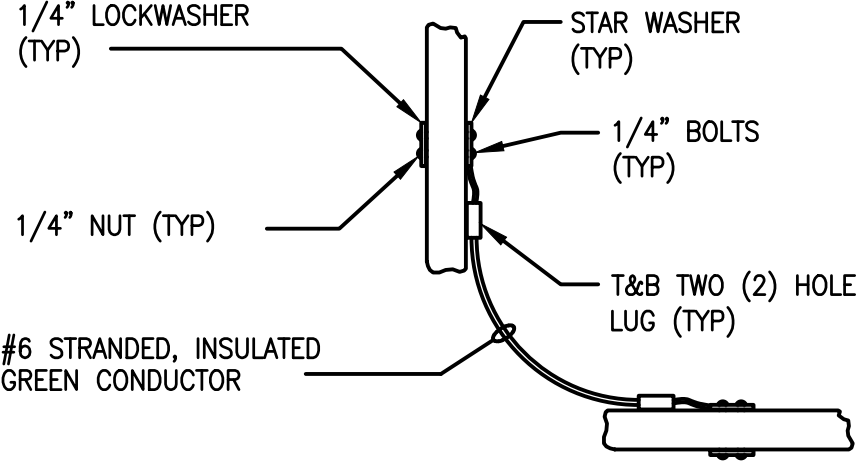
TYP. GROUNDING WALL PENETRATION
SCALE: N.T.S.



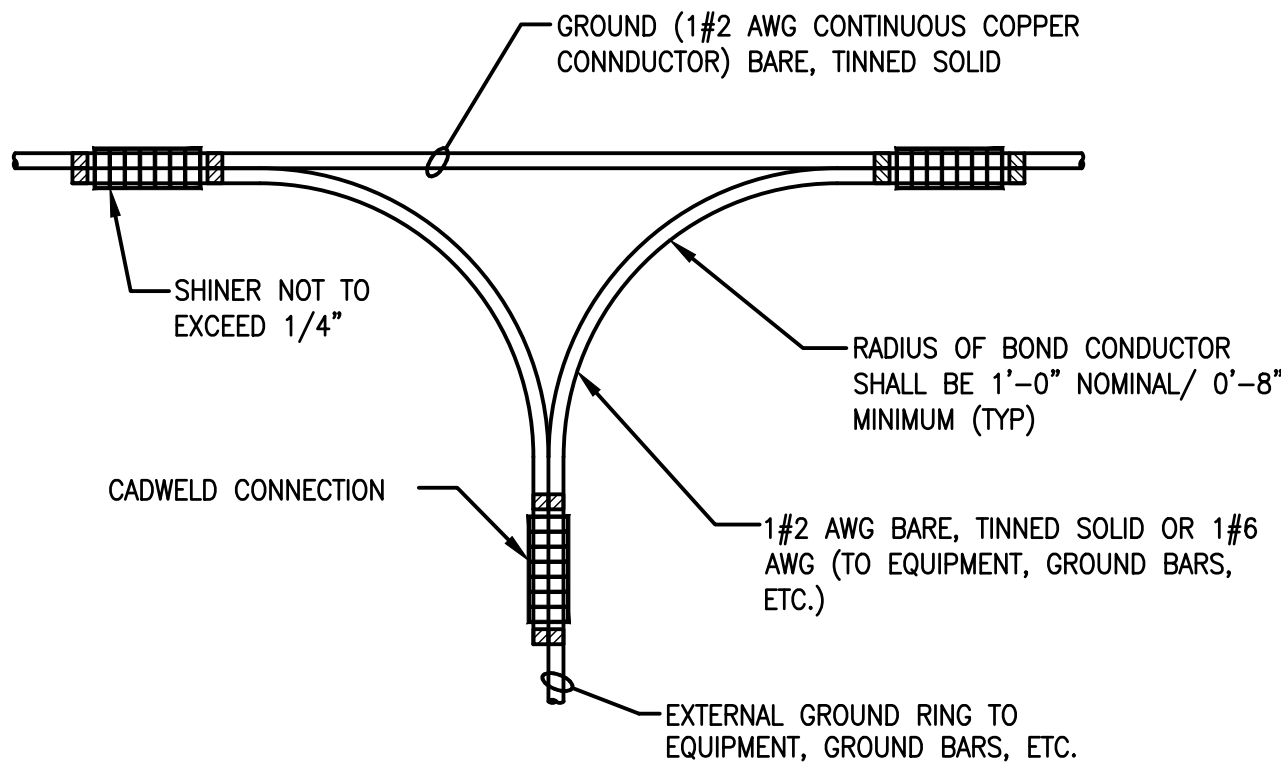
TYPICAL EQUIPMENT GROUND CONNECTION
SCALE: N.T.S.



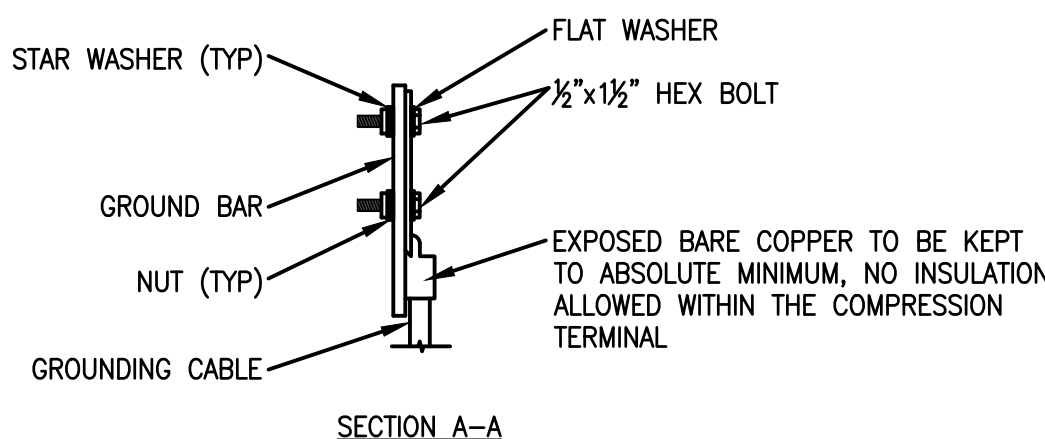
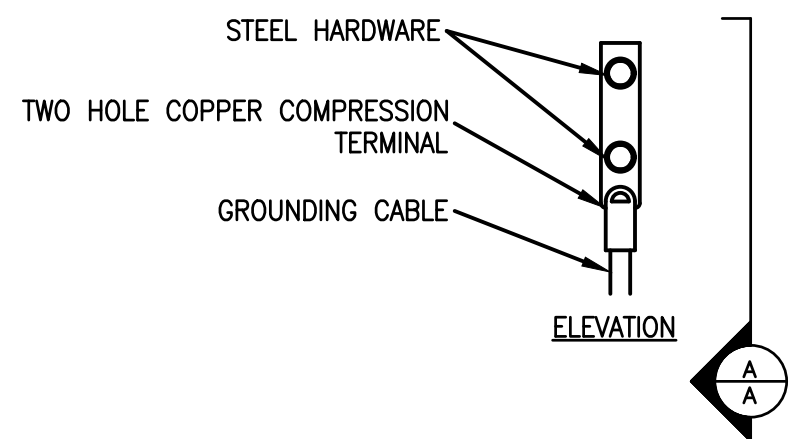
TYP. CADWELD #2 GREEN TO FLAT STEEL SURFACE
SCALE: NOT TO SCALE



CABLE TRAY GROUNDING
SCALE: N.T.S.

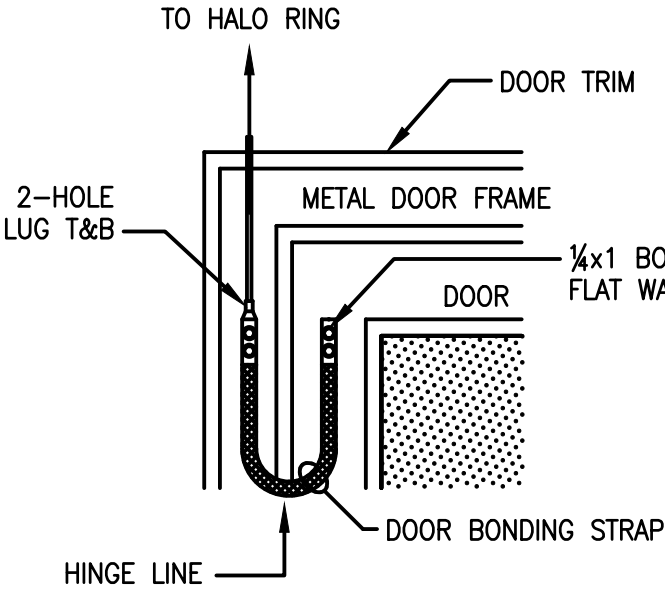


NON-DIRECTIONAL SPLICE
SCALE: N.T.S.



- NOTE:
- "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
 - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

TYPICAL GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.



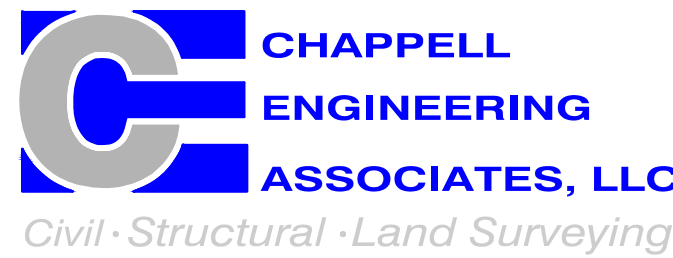
DOOR BONDING STRAP
SCALE: N.T.S.

CLIENT:



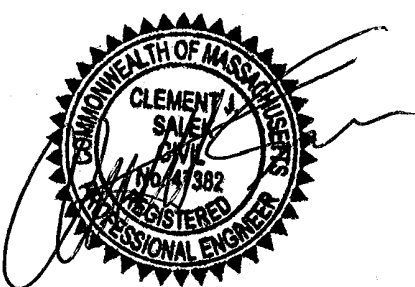
702 RIVERWOOD DRIVE
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ARCHITECT/ENGINEER:



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PROJECT NAME:

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STILES ROAD**

STILES ROAD
BOYLSTON, MA 01505

DRAWING TITLE:

GROUNDING DETAILS

DRAWING NO:

E05

SCALE: AS SHOWN	DESIGNED BY: GRS/NWC DRAWN BY: NWC CHECKED BY: GRS	SHEET NO.: 17 OF 17
CEA PROJECT NO.: 754.150	ORIGINAL ISSUE DATE: 11/21/22	